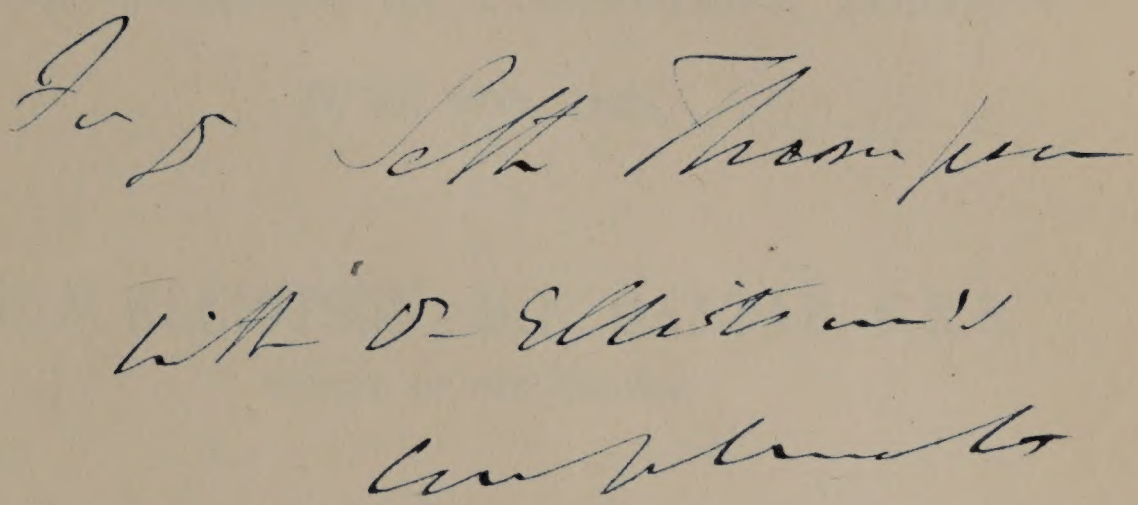


HARVEIAN ORATION.

THE

HARVEIAN ORATION,

DELIVERED BEFORE THE

ROYAL COLLEGE OF PHYSICIANS, LONDON,

JUNE 27th, 1846,

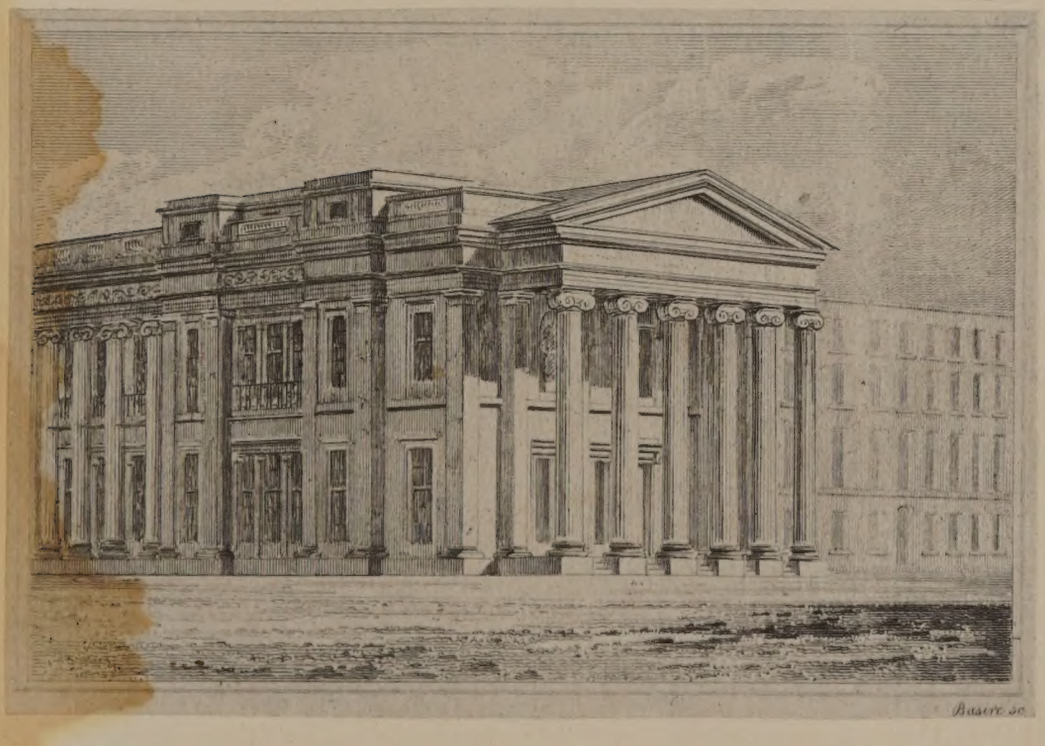
BY

JOHN ELLIOTSON, M.D. CANTAB. F.R.S.

FELLOW OF THE COLLEGE.

WITH

AN ENGLISH VERSION AND NOTES.



LONDON:

H. BAILLIÈRE, 219, REGENT STREET.

M DCCC XLVI.

LONDON :

WALTON AND MITCHELL, PRINTERS,

Wardour-st., Oxford-st.

ADVERTISEMENT.

The publication of the Harveian Oration in English is unusual, and requires explanation.

I have published it in this form, because I considered it *my duty* to declare my conviction of the truth of Mesmerism before the assembled members of the College of Physicians, and am anxious that the public should know the fact. It is but justice to myself; and I feel assured that my readers will take the same view, if they recall the proceedings of the last ten years.

I have subjoined a few notes and the translation of a letter which Mesmer addressed to the College of Physicians in 1802, in presenting to their library his work, entitled "*Mémoire de F. A. Mesmer, Docteur en Médecine, sur ses Découvertes.*"

J. E.

Conduit Street, London,

July 1, 1846.

ORATIO

EX

HARVEII INSTITUTO

IN ÆDIBUS COLLEGII REGALIS MEDICORUM,

HABITA

DIE V. KALEND. JUL., AN. MDCCCXLVI.

A

JOANNE ELLIOTSON.

ORATIO HARVEIANA.

"To maintain friendship, there shall be at every meeting once a month, a small collation, as the President shall think fit, for the entertainment of such as come; and once a year a general feast for all the fellows; and on the day of such feast shall be an Oration, in Latin, by some Member, to be appointed by the President, two eldest Censors, and two eldest Elects, so as not to be appointed two years together, in commemoration of the Benefactors by name, and what in particular they have done for the benefit of the College, with an exhortation to men to imitate: and an exhortation to the Members to study and search out the secrets of nature by way of experiment, and for the honour of the profession to continue mutually in love."

Hæc quum præciperet, auditores spectatissimi, Harveius noster annuam orationem instituit, quæ suo nomine inscribitur. Verba sunt e testamento excerpta, dato A.D. XI. Kal. Quint. Anno Domini MDCLVI. quo viris amplissimis Heneagio Finch et Galfrido Palmer, transcribuntur quinquaginta agri jugera, quæ *Nova* appellata sunt, in parochiâ Burmashianâ, comitatu Cantiæ, quæ in usum Collegii post mortem testatoris sint.

Ac primum quidem menstrua illa merenda Comitiis Minoribus celebratur. Apponuntur liba, cum fabæ Sabææ liquore. Habetur etiam annua oratio, idque Latinè. Contrà, convivium illud sollemne jam quinque et viginti sunt anni quibus intermissum est; pecuniâ, cujus rei faciendæ nobis est auctoritas, ad solidos usus Collegii conversâ, quippe cujus res nunquam satis amplæ fuerint, et ipsæ quidem illæ in exsequendis iis, quæ omitti non possunt, officiis consumptæ.

Illa autem, "Eorum qui Collegium beneficio affecerint commemorari nomina, quæque singuli præstiterint," ad eos apertè spectat, e quorum munificentiâ huic nostro Instituto aut privilegia aut facultates aliquæ contigerint: quam inter-

pretationem ita sanxit Collegium nostrum, ut eorundem modo nomina iis tabulis inseri voluerit, quæ circà theatrum suspensæ, omnes a quibus beneficia Collegio accepta fuerint enumerare profitentur.

Quorum princeps est fundator ille noster, Linacrus, qui quum esset collegii omnium animarum apud Oxonienses socius Bononiam se recepit, ibique linguæ Latinæ studium sub Angelo Poliziano, qui erat tunc temporis inter ornatissimos ejus linguæ professores, prosecutus est. Inde quum jam ipsum doctorem stili puritate superaret, Florentiam commigratus est, ibique sub Demetrio Chalcondylâ Atheniensi Græcas literas didicit, quæ tunc temporis Oxoniæ, ubi hodie in tanto sunt honore, nullum in studiis habebant locum, nec sine acerrimâ contentione in studiorum numerum admissæ sunt, quum duæ factiones—"Græci et Trojani"—usque eò violentiæ procederent, ut verbera mutua haud rarò ingererent. Idem, postquam ab Italiâ domum redîsset, id primum curabat, ut Græcæ linguæ studium, rei apud Oxonienses tam novæ, perpetuum maneret. Itaque doctorem ejus linguæ instituit, aliquot ante annis quam Cardinalis Wolseius Sellam Græcam eidem Academiæ applicârat: ubi, quum refrixissent animi eorum quibus mores parum emolliverant atque ab asperitate sevocârant artes ingenuæ, discerentque vulgo Græcè, contentio non minus violenta exorta est, quum "Græcorum" quidam id caverent, ne quid in pronuntiatione linguæ vel in melius mutaretur: decertantibus pro vetere consuetudine qui Romanæ Ecclesiæ erant, pro novâ Lutheranis; in eoque res essent, ut Thomas Gardiner Episcopus, Regis et summi concilii auctoritate fultus, si qui in sonis illis vitiosioribus perseverare nollent, alios verberibus afficeret, alios de gradu moveret, alios etiam expelleret: potiusque affirmaret extrusum iri ab Universitate Græcam linguam, quam de sonitu literarum ac vocum quantumvis mutatum.—Tantum potuit Linacrus, quem cum altero medico Ruellio Erasmus ait, solos Europæ medicos Græcè scire. Dicunt quoque eum primum inter Anglos Galenum atque Aristotelem sine interpretationis ope perlegisse. Fuerat profecto Anglus quidam nomine Phreas, Collegii Balliolensis

apud Oxonienses socius, qui quinquaginta fere annis ante Linacrum floruit. Is ad Italicas universitates se recepit, ibique Græcas non minus accuratè quam Latinas literas didicit, civilisque juris ac medicinæ studiis quum sese dedisset, et in hâc arte doctoris gradum cepisset, magnas res conquisivit, quum artem medicinæ in Italia exerceret. Is cœlo Italico litteraram flores præmaturos Anglus tulit. In Italiâ plurimum vixit, ibique vitâ decessit: Ita ad reformandam medicorum Anglorum doctrinam nihil in medium tulit.

Fuerat quoque Gallus, isque famâ haud ignotus, Franciscus de Rabelais, qui viginti annis ante Linacrum natus, idemque nimiâ quâdam festivitate ingenii vulgo notior, scientiâ et doctrinâ viguit pæne admirabili. Is, medicinæ doctor eminens, Hippocratem edidit et Galenum, quorum præcepta discipulis suis exponebat, nulli non coætaneorum perosus atque conviciis onustus; cum ob singulare ejus meritum, tum quia Græcis erat literis deditus, quas propter linguæ novitatem homines non modo barbaras, sed etiam Christianæ religioni contrarias atque inimicas esse arbitrabantur. Ut autem ad Linacrum redeamus. Is tantum literarum studio profecit, ut complura Galeni opera Latinè reddiderit tanta elegantia, ut affirmaret Erasmus, qui erat ei amicus, nunc sane melius Latinè locutum esse Galenum, quam unquam Græcè fuisse. Sic literatus, Romam se contulit, ibique in physica et medicinam incubuit: gradum doctoris in physicis primum Paduæ, dein Oxoniæ sumpsit, ubi quum esset, prælectiones de medicinâ gratuitò habebat. Quum autem jam esset ætate provectior, et ad exercendam artem suam infirmior, observationes quasdam cum doctas tum etiam acutas de universâ grammaticæ ratione Latinis literis mandabat; stilo et oratione—ut visum est literatis—Terentii ac Celsi haud dissimili. Cui quamquam ea laus minime concedenda sit, ut aut novi aliquid indagasse, aut medicinæ artem in majus provexisse existimetur, ut, si cum hodiernis medicis qui vulgo sunt eum compares, meram fortasse anum lecto adstitisse dicas; tamen, quod e doctrinâ veterum percipi posset, vir summâ medicinæ scientia, idemque magnâ sagacitate, ac recto judicio videtur fuisse.

Ita, in exercendâ arte tantâ eum apud omnes existimatione vigere, ut nullis competitoribus summum locum facile occuparet :—quum tribus regibus, Henricis septimo atque octavo, tum Edvardo sexto medicus fieret: idque non principum voluntate, non casu, aut fortunâ, non denique obnoxium se gerendo, quibus sæpissimè modis homines neque literati neque scientiâ exculti, nec sanè eorum, quæ ad artem suam pertinent, magno opere periti ad loca primaria evehuntur,—nemini id mirandum esse videatur: enimvero solâ vi ingenii ac doctrinæ ad tales honores Linacrus accessit, vir, cui nunquam dici poterat sicut Pisoni illi a Cicerone dictum est, "Obrepsisti ad honores errore hominum," singulari ergà omnes probitate, ergà amicos benevolentiâ et humanitate: adolescentium, si quis benè meritus esset, fautor liberalis; nulli denique non comis et mansuetus: "fraudes dolosque," ut ait Caius, "mire perosus, fidus amicis, omnibus juxta charus." Qualis cum esset, magnos nimirum dolores concipiebat animo Linacrus, cum videret homines ignaros, nullâ neque humanitate neque modestiâ eos qui per totam Angliam morbis laborarent, sine legibus ullis, prout quisque vellet, tractare; neque ullum magis officium animo ejus obversatum esse par est, quam ut artis suæ exercitationem a vitiis revocaret, et in melius traheret. Res erat immensi laboris, et quæ non nisi per principes, apud quos plurimum auctoritate valebat Linacrus, efficienda esset. Jam binos Oxoniæ medicinæ prælectores, unum etiam Cantabrigiæ instituerat: et postea quum jam honore, auctoritate, divitiis plurimum valeret, ut qui artem, in quâ ipse summus exstaret, eâ conditione jacere, ut suo ipsius incremento modo inserviret, ægre ferret, pro singulari suâ apud Regem Henricum et virum Eminentem Cardinalem Wolseium gratiâ evaluit, ut A.D. MDXVIII. qui in urbe Londino et intrà circuitum septem millium justis medicinæ legibus instituti essent, ii in unum corpus colligerentur: iisque privilegium esset facultatem dandi aliis qui medicinam exercerent: ita ut nemini Anglo sine auctoritate Collegii eam artem exercere liceret, nisi qui gradum doctoris in alterutrâ universitate cepisset; neque ipsis quidem illis anteà

liceret in Londino facere, quam de Collegio facultatem accepissent: iidem denique materiem omnem ex quâ medicamenta conderentur accuratè scrutarentur et examinarent.

Atque hujusmodi Collegium quanto bono publico fuerit, æstimare nequeo. In primis ea regula, quâ cautum est ne quis ad examinandum de co-optatione in ordinem nostrum, e more, et tanquam suo jure admittatur, nisi in Uuiversitate Oxoniensi aut Cantabrigiensi gradum ceperit, præcipuè eo tempore, quo nobis erat perdifficile homines in omnibus disciplinis perfectos, nisi in hâc aut in illâ Universitate invenire, ea dico ordinem nostrum ad summam omnium hominum existimationem sustulit. Ad quam, serò, ut mihi quidem videtur, pervenisset, nisi eos homines qui a primâ usque pueritiâ liberaliter educati, et in optimis artibus disciplinisque instructi fuissent, iidemque in artem suam multum diuque incubuissent, in se recepisset. Et, quamvis progressu morum ac societatis humanæ, necessarium fuerit de legibus nostris mutari quædam, tamen huic nostro Collegio debetur profecto, esse in tali æstimatione non dico medicos nostros, verum etiam chirurgos, eosque qui mixtam quandam artem exercent, atque eos etiam qui dentibus operam dant.

Præses Collegii princeps erat Linacrus: Quod quidem officium quum usque ad mortem tenuisset, domum suam in quâ conciones de more habebantur, Collegio legavit.

Post hunc, quinquaginta annorum intervallo, viguit Caius. Is sese, quum Cantabrigiæ in studiis humanitatis mire profecisset, Italiam, sicut tum doctissimis medicis mos erat, recepit; ibique artem anatomicam sub Vesalio Bruxellano, qui tum Pataviæ erat, didicit: Libros quoque M.SS. qui in bibliothecis celeberrimis essent, eo sedulo conferebat, ut Galeni et Celsi accuratas editiones præstaret. Habebat etiam prælectiones, dum in Universitate Pativinâ commoraretur: quibus Aristotelis Græcum textum interpretabatur. Quum tandem Angliam rediisset, Caius, idem fere quod Linacrus fecerat, Galeni opera quædam Latinè reddidit; quædam, quæ jam edita fuerant, revisit; alia etiam commentariis adornavit, Latino sermone purissimo conscriptis. Sunt etiam quorum textum plane

restituit : quibus adnumerari debent Hippocratis opera duo, quæ antea latebant : etenim in Græcis literis tantum erat et tam bene versatus, ut nullos non literatos qui tum in Europâ essent, aut æquaret, aut etiam superaret.

Artem prætereà anatomicam, singulis annis dissecto, Henrici octavi jussu, corum societate nostrâ cadavere demonstrabat : multa etiam ipse notabat : morbumque sudorificum, prout ipsi visus esset, accuratissimè descripsit. Reliquit etiam opusculum quod apud plurimos viguit, quum de canibus qui in Insulis Britannicis sint ; tum de animalibus quibusdam et plantis rarioribus. Scripsit etiam nonnulla de fontibus Britannicis; de antiquitatibus plura: et, nisi admiratione veterum quum linguarum tum Scriptorum occupatus esset, multa credo pro singulari suo ingenii acumine et industriâ vel utilissima invenisset. Is quoque, propter egregium suum meritum ad aulam vocatus est, tribusque vicissim principibus, Edvardo sexto, Mariæ, Elizabethæ, medicus est factus.

Collegio nostro per septem annos famâ nominis sui celebriori reddito, præfuit ; primusque honorifica Præsidis insignia sumpsit ; Artem quoque anatomicam non modo per viginti annos, etiam quum Collegii præses, et medicus Aulicus esset, coram Collegio chirurgorum illustrabat ; verum etiam hoc privilegium nobis in perpetuum obtinuit, ut eorum qui ultimum supplicium perpessi essent, bina quotannis corpora Collegio ad dissecandum deferrentur ; cui rei faciendæ sumptum ipse legatâ pecuniâ præstitit. Annales nostros idem princeps orsus est : Scripsit res Collegii a primâ usque origine ad ultimum annum quo præses erat ; neque alius quisquam Latinè purius scripsit. Juris nostri et privilegiorum defensor tam strenuus erat, ut quum chirurgi id sibi vindicarent, ut, quibus mederentur, iis sibi liceret medicamenta intus sumenda præscribere, ipse coram iis qui huic causæ a Reginâ præfecti erant, in oculis omnium ita strenuum se iis adversarium præstitit, ut, invitis hominibus præpotentibus Episcopo Londinensi, Magistro tabularum lorensium cum aliis permultis, res rejecta esset. Est id quidem plane absurdum si quis chirurgum prohibeat et a dandis medicamentis, et ab administrandis prout

velit, iis quæ suæ sint provinciæ remediis, atque ita duorum hominum impensæque duplicatæ necessitatem quandam afferat; tamen, erat profecto cur de chirurgorum præscriptionibus quam maxime caveretur, qui scilicet omnibus qui ad se consultum venirent, sive medico sive chirurgo opus esset, vulgo præscriberent; homines neque severi neque relligiosi, ut quibus parva admodum artis medicinæ scientia esset. Neque enim medicinæ præcepta tunc temporis discebant, neque de iis examinandos sese offerebant. Vix undeviginti sunt anni ex quo collegium chirurgorum a candidatis id requireret, ut testimonia darent, non defuisse sibi opportunitates (neque omissas fuisse) discendæ medicinæ: decimo post anno id quoque additum est, ut medicinæ in publico exercendæ interfuisse oporteret. Nondum ad illud ventum est ut candidati in medicinâ examinentur. Quinetiam vir egregius Astleius Cooper Baronettus solebat in prælectionibus chirurgicis jactantius aliquanto quotannis affirmare, "se, Deo gratias, nihil de medicinâ scire:" quanquam ipse complura millia sterlingorum singulis annis faceret, quum iis morbis, qui omnino medicorum essent, præscriberet.

Quæ cum ita essent, id sanè mirandum non est, quod in Hospitio Divi Thomæ, dum is prælectiones habebat, prohiberentur vulgo chirurgi ne iis, quorum infirma corpora curarent, medicamenta darent; idque etiam nostrâ memoriâ accideret. Quum tamen is mecum conjunctus esset chirurgus, qui plenâ perfectâque educatione esset instructus, exinde hospitii regulas, tanquam absurdas, et tali homini planè injustas, pro nihilo habui, neque iis, quibus mederetur, nisi ejus rogatu, unquam præscripsi.

Denique liberalitate et munificentiâ Caius Linacrum, cui in D. Pauli Ecclesiâ statuam poni curavit, quum in cæteris imitatus est; tum, postquam gratiâ suâ apud Mariam reginam, quæ erat permagna, ita usus esset, ut aulam Gonvillianam in Academiâ Cantabrigiensi ad Collegii dignitatem promoveri impetraret; ne ædificium tanto incremento impar esset, alteram aulam addidit; et collegio a se aucto, quum ipse jam ætatis flexu si ad comparandas facultates esset proclivior id senili

quôdam jure facere existimandus esset, agrorum quorundam reditus in perpetuum tribuit, ad alendos tres socios, viginti autem scholares; tantoque is artis nostræ studio flagrabat, tamque sollicitus erat de educandis in optimis artibus omnique disciplinâ medicis, ut ex illis duo medicinæ professores, ex his tres saltem ei studio deditos esse postularet.

Ad hoc tandem Collegium sese e vitæ tumultu recepit, magisterque factus est. Quod quidem officium postquam resignâsset, commensalibus suis unâ vivebat, quum in studiis suis ac scriptione constanter perseveraret, sacellumque indies frequentaret, peculiari sellâ in ejus usum a Collegio constructâ. Hujus tamen, tam magni tamque boni viri nomen a Shaksperio nostro selectum est, quum ridiculum illum Francogallum doctorem, in eâ fabulâ quæ Festivæ Vindesoriæ mulieres inscribitur, depingeret. Fuit quoque a tribus Collegii sui sociis, qui expulsi erant, accusatus, non modo "qui perversum erga sanctæ evangeliæ professores exhiberet stomachum," sed, "qui Deum esse plane negaret." Mox Caldwallus, qui erat Coll. Ænei Nasi apud Oxonienses socius, idemque Collegii nostri ante Caii decessum ingenio sanè capacissimo Præses, pecunias quasdam cum Barone Lumley Collegio assignavit, quarum reditus pro prælectionibus anatomicis et chirurgicis annuo habendis solverentur; quæ quidem prælectiones, etsi facilitate quæ hodie est libros edendi, et more legendi ea quæ statis temporibus prodeunt, minoris momenti sint quam fuerint, tamen iis temporibus erant perutiles, et perpetuâ quâdam fruuntur celebritate, quum per eas primum divulgatum esset sanguinem per venas in orbem moveri.

Ac jam præterierat post natum Caium seculi paulo plus quam dimidium, quum Harveius natus est. Is, quinque annis apud ludum quendam grammaticum peractis, Cantabrigiam se contulit, ibique sex annos in Caii Collegio consumpsit: mox Linacri et Caii exemplum secutus Italiam, ad prosequenda literarum studia, commigravit, ibidemque gradum cepit. Tantisque eum honoribus dignum judicârunt Patavini litterarum professores (apud quos comparuerat), ut ei diploma, quod vocant, his verbis dederint:

" In quo quidem examine adeo mirificé et excellentissime se gessit, talemque ac tantam ingenii, memoriæ et doctrinæ vim ostendit, ut exspectationi quam de se apud omnes concitaverat, longissimé superatâ, a prædictis excellentissimis Doctoribus unanimiter et concorditer, cunctisque suffragiis, ac eorum nemine penitus atque penitus discrepante, aut dissentiente, nec hæsitante quidem, idoneus et sufficientissimus in artibus et Medicinâ fuerit judicatus."

Inde quum jam demum se recepisset, et in universitate Cantabrigiensi gradum cepisset, ad exercendam in Londino artem suam aggressus est. Mox, hospitii D. Bartholemæi in hâc urbe medicus designatus est, anno ante quam id munus vacâsset, atque id quidem videtur gratiâ obtinuisse: nam quinque ejus fratres, qui cum Turcis mercaturam faciebant, tantum valebant ut magnas opes conquirerent. Etenim ita se res habet, Viri amplissimi, ut ad omnia ea apud hospitia nostra, quæ plurimi valeant munera, quæque Professoris officia requirant, præficiendorum medicorum jus penes illos sit, in quibus id unum spectetur, ut certas pecunias ad sustinendas domi facultates unde succurratur inopibus largiantur. Ita factum est, ut ex duobus candidatis, qui sit præstantior, is tum demum seligatur, si apud gubernatores gratiâ valeat: sin minus, deterior præponatur. Verum enim vero, qui medicis officiis præpositi sint, ii demum capaces talium rerum judices habendi sunt: quos quidem ubiubi hospitio eleemosynario adjuncta sit schola, cujus prosperi successus nullis aliis æquè cordi sint, è candidatis optimum semper præfecturos existimare par est. Quæ igitur in Universitatis Collegio in hâc urbe nostrâ ratio obtinet, ea omnino est amplectenda, cum in hospitiis, quibus adjunctæ sint scholæ, tum in Collegiis omnibus in quibus emolumentum ex ingenio et navitate professoris pendeat; ut scilicet ex iis, quorum collega is qui eligatur, futurus sit, requiratur, ut quum omnium petitorum ingenia et facultates penitus perspexerint, eumque quem delegerint, gubernatoribus ita commendârint, ut quamobrem in eum maximè inciderint, ostendant: ii vero eum rite electum esse pronuntient. Quæ quidem competitoris designati commendatio si palam facta esset, honestati bonisque moribus vel maximè, ut mihi videtur, inserviret, eoque prosperos successus haberet.

In iis autem hospitiis, quibus non sint adjunctæ scholæ, idem fieri posset, nec sanè incommodo. Sic quidem commendationi non æque credi posset, ac si ipse lucri faciendi amor animum ad probitatem accenderet; in his tamen, si ex aperto fierent omnia, satis æquum expectandum foret judicium. Quæ quidem ratio mihi tanti operis esse videtur, ut sit omnino nostris hominibus inculcanda: præsertim, quum ii ferè medici, qui fuerint hospitiis nostris præfecti, in societatem nostram honoris causâ adoptentur.

Ut autem ad Harveium redeamus. Is sanè cerebrum superiore structurâ et compositione quam Linacrus et Caius habuisse existimandus est: qui educatione prorsus simili, quum et artibus humanitatis probè instructus esset, et Latinè cum fluenter tum eleganter scriberet, et veteres pöetas cum mirâ quâdam voluptate legeret, et in Aristotelis et Galeni libris conterendis multum versatus esset; tamen inani litterarum studio nunquam uti captivus ducebatur; neque libros aliter respiciebat, nisi ut veritatis atque ingenii thesauros.

Itaque nunquam cuiquam tantum auctoritatis tribuebat, ut in iis quæ legeret, operibus, quantâlibet essent scientiâ, aut quantocunque apud doctos homines honore habiti, prius conquiesceret, quam ea quæ ab auctore scripta essent cum ipsâ naturâ, cujus speciem modo se adumbrâsse is profiteretur, comparâsset. Atque ea quidem tam flagrans discendi a naturâ et ab ipsius tanquam fonte hauriundi cupido ingenii est verè philosophi; quæ ubiubi cum magno impigroque ingenio conjuncta sit, mirificos efficit fructus. Ac potest ea sane cum variis animi viribus, etiam perexiguis, inveniri: Sed in Harveio nostro tria erant admirabiliter conjuncta: Erat quum discendi cupidus, tum impiger, tum ingeniosus: Præterea moribus, prout mox patebit, tam egregiis erat, nemo ut unquam in hâc parte præstantior fuisse videatur.

Is, quum prælectiones Lumleianas, A.D. MDCXVI., mense Aprili haberet, nonnulla, quæ jam observârat, retulit; quibus accuratius investigatis tandem, id quod antea intellexerat, judicavit, sanguinem nostrum per venas in orbem moveri.

Hoc tam subtile inventum prælectionibus, A.D. MDCXIX. habitis palam divulgavit: Sed tamen Horatianum illud præceptum secutus, ea, quæ invenit, non prius edidit quam nono exeunte anno; neque tum quidem in Angliâ, sed Francofurti, quum jam annum ageret quinquagesimum unum.

Quam quidem rem, quum sit tanti momenti, nemini ante Harveium comparuisse, haud scio an nihil sit magis mirandum.

Etenim, quum docuissent suos Hippocrates et Erasistratus, sani hominis arterias liquorem quendam imaginarium quem animalem spiritum appellabant, ægri autem sanguinem continere; Galenus aliquanto posteà demonstravit eas nihil unquam aliud, in vivis corporibus, nisi sanguinem continere: et in eodem libro rem sanè ridiculam enarravit; quomodo scilicet ipse circulatores quosdam medicos refutaverit, quum profiterentur sese coram Galeno cunctisque ejus discipulis demonstraturos, nullius animalis arterias sanguinem continere. Impudentia autem, rerum omnium ignorantia, aliorum suppressio, aliorum falsa descriptio, quumque ad extremum redigantur, tergiversatio horum hominum, quorum nomina non digna esse judicavit, quæ posteris traderentur, res est pænè incredibilis. Unus erat senex septagenarius aspectu venerabilissimo *γέρων τις ἑβδομηκοντόυτης πολὺ σεμνός.*

Ex iis autem quæ objecta fuerint, ut qui minus patientiæ habeat quam ut in tam absurdis refutandis tempus consumat, nonnulla ad misericordiam scilicet hominum facetiorum reliquit, *τοῦτο μεν δὴν ἐις γελωτοποϊίαν τοῖς γράφουσι τοὺς μίμους τῶν γελόιων ἀφείσθω.*

Demonstravit quoque Galenus sinistrum cordis ventriculum, ex quâ cavitate profluunt arteriæ, sanguine non minus quam dextrum, cum quo venæ committuntur, repletum esse; tali autem sanguine qualis est in arteriis, puriori scilicet quam in venis, neque vero aliam esse causam cur arteriis constans inesset motus, id quod Aristoteles jamdudum affirmârat. Cognitum etiam habuit sanguis per quas cordis tanquam foras exitum, per quas autem ingressum habeat; valvasque omnes accurate descripsit quo modo sanguinem quæ profluere sinant,

eædem a refluendo prohibeant. Dixit quoque sanguinem è dextro ventriculo in pulmonem procedere, quod quidem hoc fere modo factum existimat; dextro ventriculo sese dilatante, et sanguinem exsorbente; ita tamen ut totus simul thorax sese dilatet: quum arteriæ, ut idem arbitratur, cum inhalatione spiritûs repletæ, cum exhalatione vacuæ fiant.

Atque id quidem recte affirmâsse Galenum, satis demonstravit Vesalius, qui Pataviæ, in eodem hospitio cum Caio eidemque familiaris fuit, ætate tantum quadriennio grandior, vir tantâ scientiâ, ut, quum jam annum ageret unum de vigesimo, eum de anatomiâ librum scriberet, qui ceteros, qui tum quidem exstarent, facile superaret; neque enim ad id tempus multum in eo studio quisquam elaborârat; quia mortuorum dissectio, quanquam olim lege fieret, jam pridem exolevisset, quum contrà jus fasque fieri pronuntiaretur. Is ergo Vesalius rem ita demonstravit: quum arteriæ partem bifariam ligatam in vivo corpore nudasset, observavit esse eam sanguinis semper plenam: deinde, contrahente se corde, impleri arterias, sanguinem autem è corde multâ vi ac celeritate per arterias ad earum extremitates ferri: deinde, dissectâ arteriâ, sanguinis cursum infra sectionis locum impediri, nisi calamus ita esset in duo orificia insertus, ut partium conjuncturam redintegraret; tum vero, denuo fieri: denique, venâ ligatâ, eam partem, quæ esset cordi proxima, quum esset sanguine distenta, statim vacuum fieri.

Porro Servetus, qui a Calvino, quia illis de re quâpiam quæ ad religionis credenda pertineret, dissensio intervenisset, ignibus quam lentissimis consumptus est, cum paulo priusquam Vesalius scripsisset, tum aliquanto post, id docuerat, dextram cordis partem cum sinistrâ committi, non foramine aliquo quod esset in septo, id quod affirmârat Galenus, sed pulmonis vasibus; sanguinem autem e dextrâ cordis parte per magnam pulmonis arteriam in ejusdem venas transmitti; perque eas in sinistram cordis partem fluere, quum fuisset illo per pulmones trajectu ab omni fuliginosâ materiâ purificatus, et vitali quodam nutrimento a spiritu refectus.

Enuntiârat quoque libro triginta ante annis Venetiarum edito Realdus Columbus, is qui cum Caio Græcum textum

Aristotelis Pataviæ prælegit, quum sanguinis a dextrâ in sinistram cordis partem per pulmones, id quod Servetus docuerat, trajectionem; tum etiam propter eam operationem valvarum, quam optime exposuerat Galenus, fieri non posse ut e pulmone retrorsum in cor, aut e dextro ventriculo in venam cavam sanguis ferretur.

Post hunc, duodecim ferè annis, Cæsalpinus id quoque addidit, ut e pulmonibus et sinistro ventriculo sanguinis cursum in aortam expediret; valvasque eas, quarum rationem haud minus bene exhibuerat Galenus, quam earum quæ dextræ cordis parti prætenderentur, regressum sanguinis demonstravit ex necessario cöercere. Tenuit quoque, "arteriarum ramusculos cum minimis venis committi."

Jam vero id observatum habuit Vesalius, quod, si vena ligetur, quæ super ligaturam sit pars, ea subsidat; quæ autem infra sit, ea distendatur. Idem dixit cor profecto esse "arteriarum quoque et venarum principium" quas "oportet et patet continuas esse cum corde;" item "sanguis fugit ad cor tanquam ad suum principium."

Non eâ tamen penetratione erat Cæsalpinus, qui sanguinis circuitum reperiret. Proximè quidem accessit: immo etiam tetigit. Res autem erat involucris tanquam velisque obtenta, quæ tollere jam hæsitabat. "Egli la tocca," inquit Montius, "e la palpa, e sta tutto sul punto d'alzar il velo e scoprirla." "Questa grande scoperta scintilla da tutte le parti agli occhi del Cesalpini, e gli scherza e trastullasi, dirò cosi, per le mani."

Qui tandem factum est, ut tot tantisque exsistentibus, quæ Græci *Φαίνομενα* appellant, rem hodie tam notam discernere medici non potuerint?

Nolite arbitrari, viri amplissimi, aliam quamquam fuisse causam, nisi quod falsis imaginibus acies cum oculorum, tum multo magis ingenii obtusa fuerit: quibus scilicet ea quæ in in propatulo essent, repugnarent.

Quippe arbitrabantur alii hepar esse sanguinis originem: alii sanguinem non nisi venis tanquam canalibus per corpus distribui, ita tamen ut fluxus modo refluxusque esset; alii

continuum nescio quem progressum sine regressu ullo fieri: neque ullam aliam ob causam in pulmones fluere sanguinem, nisi ut alimentum caperet: etiam illa, quæ fuerant prius a Galeno de structurâ ac ratione valvarum cordis optime verissimeque exposita, ipsa ad tempus scientiorum hominum opinione pro refutatis habebantur.

Ex his tam absurdis phantasiis multa erant, quæ omnino intelligi non possent: multa quæ secum discreparent: quum tamen pro veris habebantur, et rem totam ita explicarent, ut fatuis hominum mentibus probè satisfacerent, minimè erant Harveii novæ cuique alucinationi postponenda.

Etiam Cæsalpinus, quanquam sanguinis cursum e venâ cavâ cum per dextram cordis partem, tum per pulmones, tum per sinistram cordis partem, tum denique in aortam, ceterasque arterias exploratum habuit, idque etiam affirmavit, arteriarum ramusculos cum venarum extremis committi, tamen censuit sanguinem ab arteriis in venas somno tantum fluere; illa autem venæ ligatæ extra ligamentum distentio, quæ quidem rem aperire debuerat, id tantum animo ejus, dementius quam veri similius, videtur suggessisse, quod ligamentum nihil aliud efficeret, nisi ut sanguis retrorsum ad principium suum, ne scilicet extingueretur, flueret.

Jam vero cor esse musculosum, rem adeo manifestam, negaverat Galenus. Is, quo contra Hippocratem cor, quamvis specie musculosum, re tamen carere musculis probaret, argumenta sane absurda contulit, ut eos, qui oculis suis credere ausi essent, his fere verbis denuntiaret: "nihil intelligunt qui cor musculosum esse dicunt," "maximè errant, qui cor musculum esse censent," "ignari nobis videntur qui cor musculum esse existimant, non intelligentes actionem ejus excellentiamque," cum aliis hujusmodi permultis.

Realdus quoque Columbus eandem rem simili modo negavit; Cæsalpinus autem ita censuit: distendi atque iterum subsidere cor atque arterias, quum sanguis vicissim ebulliret et subsideret. Quod si quis cum phantasiarum scholasticarum expers, tum rationis anatomicæ planè imperitus ea quæ supra adduxi conspexisset; vidissetque cum suprà ligamentum intu-

mescere arterias, venas decrescere, infra eam, decrescere arterias, venas intumescere; tum sanguinis effusione mori animalia, transfossâ majore sive arteriâ, sive venâ; tum omnes humani corporis arterias cum hâc cordis parte, venas autem cum alterâ committi: tum denique illas cordis valvas sanguinem a fluendo nisi certo quodam cursu prohibere, nempe a venosâ cordis parte in pulmones, inde autem per alteram cordis partem in aortam: hæc si vidisset, sanguinem perpetuo quodam gyro fluere et refluere profecto comperisset. Disciplina tamen medicorum, quum, sicut omnis ferè disciplina et fuit, et diu erit, ex aliquâ veritate, phantasiis atque erroribus pluribus, constaret, res comperta non est; et ipse quidem Harveius, quanquam eam tum primum, sicut Boylio communicavit, quum jam annum ageret vigesimum tertium, observârat, nempe, postquam valvas quæ sunt in venis, vidisset, et id quidem Fabricio demonstrante; tamen ex impressâ jam animo a præceptoribus suis opinione tantum detrimenti ceperat, ut pœnè quadraginta esset jam annos natus quum eam primum rem, quam dudum intellexerat, clare perspexit. Quam ubi perspexerat, aliisque tam lucide exhibuerat, ut de eâ hodierno die dubitare insaniæ esset habendum, medici tamen, ut qui errores quibus imbuti essent pietate quâdam amplecterentur, et ipsi naturæ ac veritati consentaneos arbitrarentur; iis quæ aut exempla adduxit Harveius aut e rebus manifestis necessario collegit, omnino obcæcati sunt: neque vero pauci erant, qui eadem se visuros ità negarent, ut dicerent, etiamsi viderent, oculis fidem non daturos: quippe Harveii vera ea re vera esse non posse, quia scilicet vera essent ea quæ ipsi somniarent. Jam vero, quorum maxima in iis rebus auctoritas esset, summi quum medici tum chirurgi, professores apud varias Europæ universitates, totum denique scriptorum genus Harveii dicta præpostera esse censuerunt; ac si tunc temporis fuissent, qui de novissimis semper rebus atque inventis scripta sua alii septimo quoque die, alii singulis vel ternis mensibus ederent; non defuissent, qui in eum maximo omnium strepitu acerrimoque inveherentur. Etiam qui gradus petebant, ii præceptoribus suis, quorum nomina jamdudum

sunt in oblivione fere omnia, fidentissimi in eo se venditabant, quod in thesibus suis, quas vocant, Harveii tam novam tamque invisam opinionem falsam esse affirmarent. Quorum nescio quis Simon Boullotius, Præsidis alicujus Hugonis Chaslesii auspiciis, disputationis inauguralis quam A.D. MDCXLII. habuit, hæc verba "Ergo motus sanguinis non circularis," titulum sumsit. Reperimus etiam triginta post annis A.D. MDCLXXII. hanc propositionem, quam inauguralis dissertationis titulum sumsit Franciscus Bazin, Præsidis nescio cujus Philippi Hardouini de St. Jacques auspiciis, "Ergo sanguinis motus circularis impossibilis." Ergo requiescunt in pace Simon Boullotius cum Hugone Chaslesio; Franciscus quoque Bazin cum Philippo Hardouino suo,

"—— not a pinch of dust remains of Cheops."

Sanguis autem illum suum "motum circularem" etiam nunc improbus tenet. Quinimmo nemo erat medicus, qui re primum propositâ, quadragintesimum annum egerat, quin prius esset mortuus, quam in rem ab Harveio compertam accederet: quotcunque postea annos vixisset, aut qualemcunque tam depravati judicii recensendi facultatem habuisset.

Uni ex tantâ scriptorum turbâ respondere dignatus est Harveius, Joanni Riolano, qui Lutetiæ Parisiorum in medicinæ atque anatomiæ studiis multâ cum laude erat versatus. Neque vero "profecit hilum." Etenim Riolanus sicut exspectandus erat, nullâ erat ratione refutandus: qui cum multa atque obscura ita rescripsisset, ut quæ anteà scripsisset, reponeret, Harveii autem experimentis nihil omnino ejusmodi opponeret; quumque alterum a præclaro viro pro nimiâ ejus comitate responsum tulisset, tertio rescripsit, quum tantâ fuisset ignaviâ socordiâque ut ne unum quidem experimentum ipse faceret; quæ autem essent ab Harveio facta, ea, quia modo suis phantasiis repugnarent, pro veris accipere dubitaret.

Ea quum perspexisset Harveius tanquam insanabilem rejecit hominem, neque unquam deinde rescripsit; relinquens eum naturæ, quæ suo quæque ordine cum hominum secula, tum ineptias quamvis obstinatas tanquam prudens theatri moderatrix, a scenâ removet.

Neque vero eo contenti erant medicinæ professores ut rem modo negarent: immo etiam Harveium ut insulsum notabant; ceteri autem homines, ut qui medicinæ doctores arbitrabantur cum judicandi haud sanè incapaces, tum vehementiore animi impulsu, ut philosophos, carentes, tum veritatis amantes, tum maximè diligentes et in observando et in experiendo, insulsum oportere esse hominem censuerunt, neque ad eum, sicut antea, consultum ventitabant. Quod quidem Joannes Aubrey, qui erat ei familiaris, suo ipsius testimonio comprobavit, qui in libro quodam manuscripto, qui nunc est in bibliothecâ Societatis Regiæ, hæc ferè enarrat. "Ipse mihi dixit Harveius, se, postquam librum edidisset, multo minore in æstimatione medicum haberi." Erant quoque, qui eum traducere conarentur, libro illo suo nondum edito, quum amicis modo, et in prælectionibus anatomicis quam de eâ re sententiam haberet, exposuisset. Itaque id quoque causæ cur librum ederet fuisse memorat, quod invidi homines, qui ea quæ proposuerat aut minus intellexerant aut in pejus acceperant, publice eum conviciis petebant. Ac brevi sanè tempore totâ ex Europâ dicteria in eum et scommata profluebant.

Atque hos quidem obtrectatores quam nihil respexerit Harveius, vel ex alterâ illâ quam ad Riolanum scripsit epistolâ colligi potest; in quâ ita sententiam suam declarat. "Maledicta autem maledictis rependere, indignum philosopho et veritatem inquirente, judico: satius et consultius fore arbiter, tot malorum morum indicia, verarum luculentarumque observationum luce diluere. Ne oblatrent canes, aut suam ne evomant crapulam, aut ne inter philosophorum turbam annumerentur quoque cynici, devitandum est; verum ne mordeant, aut vesanâ rabie inficiant, vel canino dente rodant ipsa veritatis ossa et fundamenta, cavendum est. Vituperatores, momos, scriptoresque convitiorum labe sordidos, ut nunquam legendos mecum statui, (ut a quibus nihil solidum aut præter maledicta egregium sperandum) ita multo minus responsione dignos judicavi."

"Utantur suo malo genio: vix unquam benevolos lectores habituros puto; neque (quod præstantissimum et maxime op-

tandum) sapientiam donat Deus Optimus improbis: Pergant maledicendo, donec ipsos, si non pudet, pigeat, tædeatque."

Harveius autem per totam vitam mentis atque ingenii studiis est deditus: Vixit nunquam ferè intermisso cursu inter legendum, observandum, experiendum, cogitandum. Ejus liber de animalium generatione non modo eleganter docteque scriptus est, sed observationibus cum novis tum laboriosis distinctus, idemquê fecundissimi ingenii cogitatis abundans. Quem, licet hodierno die neglectus jaceat, ego me nunquam sine delectatione aperire fateor. In eo conficiendo Harveius per magnam vitæ partem est occupatus; quum vero ex iis qui ejusdem essent professionis contumeliâ minimè fraternâ fuisset acceptus, ab edendo eo diu abhorrebat: Immo etiam, cum octo aliis libris M.SS. qui, non sine multorum annorum labore confecti, domo Harveii a ferocissimo hominum grege direptâ, consumpti sunt omnes, hic quoque peribat, nisi vehementissimis ab Harveio precationibus tantum impetrâsset familiarissimus ejus Entius M. D. ut opus tam desideratum in lucem promeret. Is enim quum Harveium extremâ jam ætate ab oculis hominum remotum viseret, invenit eum jam tum alacrem et in naturæ investigatione perseverantem, eo tamen animo, ut ingratis suæ professionis hominibus quidquam aliud donaturum constanter negaret. Ergone auctor sis, ait Harveius subridens, "ut è portus hujus (in quo dego), tranquillitate me dem iterum in infidum mare? Nosti quantum turbarum pristinæ meæ lucubrationes incitaverint, Præstat sanè domi interdum privatim sapere, quam quæ multo cum labore concitaveris, ea protinus divulgando, tempestates, quæ tibi in posterum otium et quietem adimant, suscitare."

Tandem concessit, ille autem amicus abiit, quum librum secum ferret, liceretque ipsi, prout satius esse judicaret, eum aut supprimere aut in lucem proferre. Quem cum aperuisset, et tam divitem thesaurum oculis perlustrasset, sane attonitus est, cum, talis quum esset, tamdiu opertum, tum ab Harveio adeo parvi æstimatum fuisse, quum alii quisquilias nescio unde collectas maximo cum apparatu pro suis venditarent.

Eodem ferè modo Galileus, paucis ante obitum annis epistolâ ad virum illustrem Comitem de Noailles scriptâ, negavit se, quum tantum fuisset ob ea, quæ scripserat, vexatus, iterum ea quæ longo labore ac studio comperisset, divulgaturum; ne tamen tanto beneficio privarentur posteri, id se in animum induxisse scripsit, ut earum rerum expositionem manu scriptam post mortem relinqueret. Idem quoque in Dialogis suis, quæ arte Astronomicâ conjecerat, ea exactè evenisse affirmat: prudentius tamen sibi visum fuisse, de iis omnino tacere, ne rerum novitas dudum sopitos adversariorum impetus in se denuo provocaret.

Denique Harveio, si quo alio, inerant ea fere omnia, quæ meo quidem judicio ad perfectum virum pertinent. Etenim illa sua tam constans naturæ observatio non nisi e puro flagrantique veritatis amore, cum ambitione, tum inanis gloriæ studio, intaminato. Nemo unquam tam strenuè pugnabat, non ut ipse, sed ut veritas vinceret. Morum urbanitate erat singulari; utque luculenter cogitabat, ita luculentâ oratione quæ cogitâsset, exprimebat: minime tamen aut apud elegantiores homines aut apud permultos erat artem exercendi cupidus, sic enim erat aut ad meditandum parum temporis habiturus, aut magno quidem strepitu ac fulgore, sicut in ludicro ignis genere fieri solet, dum se in oculis hominum ageret, edito, inde simul ab exercendâ arte in otium se recepisset, in tenebras ac silentium concessurus, cum ceteris obliviscendus tum omnino inutilis futurus. Erat et mansuetus et modestus: suorum meritorum ostentator parcissimus, quicquid turpe esset aut inhonestum id studiosissimè evitans, etiam quod honestum esset, modo non posset nisi indignè obtineri. Non ideo tamen ab inceptis pusillanimitate destitit. Quippe in Hospitio D. Bartholemæi cum multa alia quæ corruptione temporum in pejus verterant, correxit; tum præcipuè morem illum tam iniquum, quem supra memoravi, ut chirurgi eos curandos susciperent, quibus medicis opus esset. Ita enim vulgo faciebant, neque illud respicientes, quod judicio omnium qui de his rebus aliquid saperent, plane essent incapaces, neque, pro admirabili suâ cæcitate id cernentes, quod, si in medicorum provinciam sese

intruderent, nemini non manifestum foret, non tanto eos esse in honore atque æstimatione, quam ut suam modo chirurgiæ artem exercendo, satis essent occupati.

Erat porro Harveius Jacobo Primo medicus extraordinarius, ordinarius autem Carolo Primo, qui utcunque de civitate meritus esset, in hoc tamen Angliæ regibus præstantissimum munificentiæ exemplum dedit, quod optimas artes atque disciplinas liberaliter coleret; ipsi autem Harveio nullam non præstaret facultatem, quo de generatione animalium inquisitiones suas extenderet, quum et in septa regia admitti cum juberet, et ipse cum aulicis suis ad inspicienda ejus experimenta iret. Idem etiam Harveium Collegio Mertonensi apud Oxonienses præficiendum curavit; Collegio quoque nostro, sicut hi muri testantur, privilegia largitus est haud minora quam Maria, Elizabetha, Jacobus Primus, Carolus Secundus, singuli concesserunt: Georgius autem Quartus eo nos honore dignos esse judicavit ut quicunque Collegii nostri Præses esset, cum statuerit unum ex ordinariis medicis suis ex officio fieri.

Titulum quidem honorificum Harveius noster accepit nullum: neque vero ceteri ferè homines quorum nomina professioni nostræ maximum splendorem famamque attulerunt, Glissonus, Sydenhamus, Jennerus, Hunteri duo Joannes ac Gulielmus, uno verbo quicunque ferè inter Anglos præclari medici iidemque magni et boni viri fuerunt, ii titulis fermè caruerunt. Quibus qui potiti sint, ii fortunâ potissimum clari, si quidem unquam clari exstiterunt. Harveio, quum jam annos vixisset sex et septuaginta, Collegii autem socius fuisset septem et quadraginta, annis quinque et triginta præteritis ex quo veram sanguinis rationem in theatro Collegii divulgârat; uno antem ex quo huic nostro collegio amplissimum ædificium, Romano architecturæ genere, donârat, in quo inerat cum atrium ad conciones habendas eleganter instructum, tum bibliotheca instrumentorum chirurgicorum, et lectissimorum de rebus variis librorum plena, Præsidis officium est oblatum. Is illum ipsum tam meritum honorem declinavit. Ille autem, qui antea Præses fuerat, Prujeanus, medicinæ doctor, huic honori iterum præfectus est. Collegium autem ut vivo

Harveio sub ipsam tantæ voluntatis et munificentiæ declarationem statuam ponendam statuerunt, ita mortuum insigni honore prosecuti sunt. Neque vero anteâ decessit, quam illud suum inventum prope omnium hominum consensu acceptum vidisset. Fuerunt quidem qui in contrariam opinionem variis exinde temporibus inclinârint. Ex quibus Georgius quidam Ker chirurgus A.D. MDCCCXVI. eum librum edidit, quo Harveii compertum refutare orsus esset. Hodierno autem die, nemo est ferè quin tale cavillatorum genus inter vetustioris ævi portenta enumerandum esse fateatur.

Denique Collegio nostro reliquit tam libros, quam rem paternam (unde sex et quinquaginta libræ annuò veniebant) ex quâ quantum cum in convivium, annuamque orationem, tum in bibliothecæ et musei curatorem sumptûs fieret, solveretur. Et museo quidem A.D. MDCCCXXIII. accesserunt è dono comitis de Winchelsea proxime defuncti dissectorum cum nervorum, tum arteriarum venarumque specimina, in sex oblongas tabulas relata; iisdem quibus ipsum Harveium veri simile est in prælectionibus suis usum esse, immo etiam suis manibus confecisse.

Cum Respublica esset, Collegii ædificia, cum totâ illâ areâ addicta sunt quæ sub hastâ venirent; sic enim de bonis Ecclesiasticis fieri placitum erat. Ista autem area ad D. Pauli Ecclesiam pertinebat; neque postea A.D. MDCLII. iis ædificiis quidquam addere potuisset Harveius ni unus vir fuisset, Hameius, medicinæ doctor, qui et artis suæ scientiâ plurimum pollebat, et his verbis in Annalibus nostris a Præside quôdam nostro, Whistlero nomine, commemoratur: "tam bene sciens Latinæ linguæ, non ipsum Latium magis Latinum fuerat; tam Græcæ, non ipsæ Athenæ magis Atticæ."

Is Collegii fuisse amantissimus videtur, qui domum hortumque sub hastâ emptos, duobus post annis Collegio in perpetuum redonârit. Et ædificium quidem cum vetus illud tum id quod Harveius adstruxerat, cum omnibus ferè libris ceterisque rebus (quæ erant permagni), incendio illo quod A.D. MDCLXII. magnam Londini partem devastavit, consumptum est. Periit etiam Harveii statua, cum eâ in-

scriptione quæ ipsius virtutes tanquam immortales exhiberet, inter cæteras res igni absumpta; eaque res exemplo fuit, clarorum hominum virtutes quanto perennius famâ posteris tradantur, quam marmoribus, quæ "publicis" sint "notis incisa," monumentisque. Ille autem tam munificens Hameius talem in sollicitandis aliis operam navavit, tantumque ipse denuo præstitit, ut brevi quodam tempore ampliores quam anteà ædes Collegio essent: Idem moriens duo Prædia Collegio testamento reliquit. Quæ omnia adeo nullâ sui ipsius habitâ ratione, verum è sincerâ benevolentiâ fecit, ut quum Collegium ei statuam ponendam decernerent, is vero negavit: Præsidis autem officium etiam atque etiam declinavit. Immo gradum quem in medicina ceperat tanti habebat, ut Equitatus honorem, quem Carolus secundus non semel ei offerebat, is verecunde denegârit, "ne scilicet Doctoratûs excellentiam contaminaret." Et talis quidem gradus titulus erat perquam honorificus, ad quem accesserit is vir qui et optimis disciplinis instructus, et subtilissimâ examinatione pertentatus fuisset; gradus neque vulgaris, neque a Germanicâ quaquam Universitate emptus: Sic enim nunc temporis sæpius fit, ut Germani sordidum quoddam exerceant commercium, et neque professionis neque patriæ nomen respicientes medicinæ pseudo-doctoribus Angliam inundent. De quibus illud unum admonuisse satis sit, istos peregrinos titulos ita demum apud nos valere oportere, si, qui iis ornati sint, de eorum scientiâ ac meritis coram certo nostrorum medicorum conventu inquisitio sit habita, judicatumque fuerit, tantum eos medicinæ scientiâ pollere, quantum illi quibus Doctoris gradus in Angliâ contigerit.

Jam vero, mihi commemorandus est, auditores, is vir, cujus munificentiæ multa debet Collegium nostrum, neque vero ab uno etiam oratore, quod sciam, hoc in loco laudatus est, ab Harveii usque ætate ad proximum superiorem annum, cum a Chymicæ et Botanicæ apud Academiam Oxoniensem Professore, nomen Gilberti hoc die anniversario primum pronuntiatum est. Sed tamen oportebat unum quemque oratorem de eo Collegium commonefacere, cui quidem libros omnes, fossilia, globos, instrumenta iis qui Physici vocantur

usitata, testamento legârit. Erat sanè, quamvis in talem oblivionem deciderit, maximo et clarissimo nobis decori atque ornamento. Nam et, eodem fere modo, quo Galileus, verum investigationis cursum persequebatur, et demonstravit majorem rerum scientiam comparari non posse, quoad ita se philosophari homines existimarent, si modo verba aliquot aut sententias ab Aristotelicis sumptas iterarent millies jam repetitas, ut nullam neque vim neque sensum haberent, aut pauca quæ comprobata essent, eademque satis trita, permulta quæ ex merâ conjecturâ penderent, vicissim enuntiarent; quæ autem ante oculos et omnino in manibus essent ea pro ignaviâ suâ ac socordiâ præterirent. Totum hoc philosophorum genus is gravissime obtestatus est, ut, qui cæteros informare vellent, a ratione tam inani desisterent, et ad experiendum omnes ingenii facultates converterent; quam quidam sententiam mirum est quam iisdem ferè verbis expresserit Franciscus ille Bacon, Baro Verulamius. Porro Gilbertus eandem prorsus methodum quum de ratione magneticâ inquireret diligenter persecutus est: pari ardore, ingenio, fructu: ut nemo ferè inter Anglos rerum naturam ab experimentis deducendi magis auctor fuisse videatur. Quippe cum omnia quæ de re magneticâ scripta essent perquam diligenter conquisivisset, de multis autem a navigantibus certior factus esset, plurima ipse experimentis non sine gravi impensa factis comperisset, opus edidit inventione sane admirabili, plenum artis principiis, quo quidem ea quæ de re magnetica hodierno die cognita sunt, omissa liquoris illius subtilissimi quem vocant electricum, ratione, continentur ferè omnia: multa etiam quæ ab inquisitoribus magni nominis posteà divulgata sunt, et pro nuper inventis maximâ veneratione habita: tanta fuit apud nostros homines tam ingeniosi libri ignoratio. Itaque, cum duæ tantum editiones in Angliâ prodierunt, duobus superioribus seculis in Germaniâ et Belgiâ quinque vicissim prostiterunt.

Hæc ipsa quum investigaret, tamen artem suam plurimum in urbe exercebat; et Elizabetha regina, quæ cum ipsa magno ingenio esset, præstantiam aliquam in suis et dignitatem cito adnotabat, et in eo gloriabatur, se bene meritis condigna

semper præmia rependere, Gilbertum medicum sibi ordinarium præfecit, stipendiumque ei annuum concessit, quo in cognitione suâ perseverare posset. Idem Jacobo quoque primo medicus principalis erat anteà quam Harveio, qui erat quadraginta annis minor, idem honos contigit. Mortuus est ipso anno ante quam Harveius apud nos ad examinandum comparuit. Itaque de vero sanguinis cursu jam tum ignorabatur. Ejus inventa, quum intactam relinquerent medicinam, medicis offensioni non erant. Itaque hi nunquam eum affligebant, neque obstabant, quominus et artem suam exerceret, et investigationibus tam innocentibus (quippe quæ nihil ad ipsos pertinerent), otium tereret. Collegii præses nunquam factus est, neque titulo auctus: in re utrâque Harveio haud sane dissimilis: Cui quidem in aliis quoque rebus erat ita similis, ut is, qui proximo anno Harveianam orationem pronuntiavit, jure eam collaudârit, ut "præclarum virum, et Harveio, si quis alius, comparandum." Idem vir doctissimus hanc similitudinem his fere verbis expressit, cum "ille universæ naturæ arcana, hic admirabilem corporis animalis fabricationem pari solertia et judicio perspexerit. Ut enim per animantium corpora sanguis, sic per universum naturæ corpus subtilior iste liquor, quem electricum vocant, infundi videtur; hic motuum, quibus fit, ut rerum semina inter se coalescant, ille vitæ et sensus, quibus viva e mortuis discernantur, principium et fons." "Si igitur meritis laudibus cumulemus eum qui circuitum sanguinis, a corde usque ad extrema corporis perpetuo gyro fluentis atque refluentis primus omnium patefecit, nonne etiam honore dignus est hic, qui Liquorem illum, tanto minus sensibus nostris obvium, quanto magis sit tenuis atque subtilis, cujus quidem ope non sanguinis modo particulæ, sed omnium quotquot in terrâ nascantur, inter se consociari videntur, ità luminibus suis illustravit, ut abdita ejus natura tandem illucescat, cæcique meatus curiosis posterorum oculis subjiciantur."

Jam vero Baronis Lumleii et Doctoris Caldwelli exempla in eo imitati sunt Thomas Brown, eques auratus, Gulstonus medicinæ doctor, vidua Croonii M.D., ut prælectiones aliquas

institui vellent: Sed mendum, quod in illius testamento compertum est, impedimento fuit, ne testatoris benevolentiâ Collegium frueretur; eaque res quam hæredibus istis dedecori tam ceteris testatoribus monumento fuit. Bibliothecæ nostræ Henricus Marchio Durnovariæ, qui aliis aliorum temporum nobilibus similis in nostram societatem se honoris causâ adscisci curavit, prorsus eodem modo quo principes et optimates in societates opificum adscisci solent; prætereâ vir illustrissimus Seldenus, Ashmoleus, T. Mayerne, Equites aurati, E. Bish, et Ricardus Napier, medicinæ doctores Holboschius, Haleius, Baillieus singuli libros dono dederunt. Atque hic quidem mille exempla morborum ad artis anatomicæ illustrationem, quorum nonginta suâ ipsius erant manu facta, nobis donavit, quæ ambo munera ut a nobis benè servarentur nongintas libras concessit. Is, quum in priore vitæ parte multum in docendâ anatomiâ esset occupatus, corporis quum sani tum morbo afflicti rationem anatomicam melius callebat, quam plerique medici qui ei ætati suppares essent: quibus etiam in diagnosi antecellebat,—quod quidem oculi manûsque ope facere posset,—non tamen aut remediorum scientiâ aut administratione ceteris prælucebat, id quod apparet ex ejus sermonibus, in quibus is quam ingenuè tam simpliciter rem confiteri solitus est. Opus ejus de anatomiâ, quam morbidam appellant, cum primum prodiit, in magnâ æstimatione habebatur: et sane casus qui ab eo commemorantur legentibus neque voluptas deerit neque fructus; brevis etiam descriptio morborum, quos laudat, cum vera est, tum ex ipsius observatione comparata.

Mox Everardus Brand qui è pharmacopolarum societate erat, collegio nostro pro benevolentia suâ ac sapientiâ materiam medicam donavit multâ curâ atque impensâ petitam, ipsique a medicinæ doctore nescio quo Burgesso, qui illud iracundè jusserat, ne unquam in nostram possessionem caderet, legatam. Nonnulli etiam nobis res domesticæ utilitatis dono dederunt: anno autem MDCCXX pecuniam contulerunt socii XXXVII. quorum nomina si quis enumerari cupiat, is se ad tabulas, quæ theatri muris affixæ sunt, convertat. Erant

autem inter eos viri omni laude, suo quisque tempore, cumulati. Quid dicam Sloanium, Meadium, Freindium, Jurinum, Stukeleium, Whartonum, Woodwardum, quos si vobis, auditores, ad imitandum proponerem measque insuper exhortationes adderem, quum nemini non supervacaneum opus aggredi viderer, libenter supersedeo.

Etenim A.D. MDCCCXX quum novo ædificio nobis opus esset; omnes Coll. socii præsto fuere, qui amplissima munera in medium conferrent: quorum exemplum usque ad hodiernum diem secuti sunt nostri, quorum nomina in novas tabulas relata sunt ad numerum CCVII. tanquam eorum, qui munificentiâ suâ Collegii opes auxerint: Ergo hi omnes Collegii potius nomen et dignitatem augendam quam suam ipsorum rem aut fortunam amplificandam censuerunt: Quippe divitiis opibusque parum abundat Collegium nostrum, ut sociis suis privati aliquid lucri aut commodi largiatur.

Jam vero proximi nostri Præsidis Henrici Halfordi, Baronetti, qui et ipse permulta est largitus, studiis ac precibus inducti ii quibus Radcliffianæ pecuniæ administratio commissa est, bina millia sterlingorum ad novas ædes extruendas contulerunt; aream autem ii, penes quos summa res imperii est, mercede annuâ liberam concesserunt.

Inter illos autem qui nostrâ memoriâ Collegium beneficiis affecerint commemorandi sunt Wollastonus et Thomas Youngius, ambo magnarum reconditarumque rerum scientiâ clarissimi.

Quorum ille præter cæteros in oculis hominum excellebat, quum experimenta tam accurata tam perpulchra de iis potissimum rebus faceret, quibus philosophorum animi illis temporibus alliciebantur. Hic autem ut eo ingenio erat quod omnes pariter res comprenuderet, ita scientia erat pæne universâ: tantumque in opticâ profecit, ut illud theorema quod undulatorium vocant, cum subjectum pedibus hominum prolapsumque esset, ad novam quasi vitam revocavit, comperto per subtilissima quædam experimenta quânam ratione ita inter sese confligant radii lucis ut, uti a duobus pluribusve sonis parum concurrentibus oritur discordia, sic ab istâ con-

flictione tenebræ oriantur. Cujus tam præclari inventi mercedem a criticis Edinensibus acerrima tulit convicia.

Idem quoque nostris hominibus clavem præstitit, quâ hieroglyphicorum Ægyptiorum arcana possent recludere. Itaque cum Wollastonus statim ad summan profluxit hominum famam, cujus tamen certos fines neque transgressus est unquam, neque transgressurus: Youngii contra fama primum modica, tanto magis incrementum susceptura esse videtur, quanto magis homines in iis artibus, quarum is viam præivit, elaborârint.

Jam vero ad alterum Harveii præceptum redeo, quo oratorem jubet, "To give an exhortation to the members, to study and search into the secrets of nature by way of experiment, and for the honor of the profession to continue mutually in love."

Scilicet illud nobis, auditores, præcipi voluit vir clarissimus, ut ne meras hypotheses fabricemur, neque ea quæ reverà facta esse ab aliis comperta sint, arroganti quodam cavillationis genere, nullâ autem experientiâ, posse fieri negemus, coque vix oculis perstringenda esse judicemus. Nempe percipienda sunt, viri amplissimi, ut a pueris elementa litterarum prima, ita nobis tam rerum physicarum quam morum politiorum principia: Itaque induendum est omnibus puerulorum animos, qui vel aliquid aut in his aut in illis proficere velint. Etenim experientiâ parum adhuc valemus, ut quæ in naturâ fiant præjudicemus. Quæ cum ita sint, ad rerum scientiam benè beatèque comparandam nihil vehementius conducit, quam animus quum humilis tum ad discendum aptus. Quod si quis in naturâ cognoscendâ dignè elaboravit, is profecto intelligit, quam firmas, quam tranquillas, quam diuturnas voluptates, cum neque ambitione neque vano studio perturbatus sit animus, illa maximarum rerum investigatio præstare possit. Quæ quidem utrum ad præsentem obviamque utilitatem spectet, necne, nihil interest. Delectatio enim cum pura est, tum quæ animum ad superiora erigat; neque vero non omni gradu qui sit in cognitione naturæ factus, ad

utilitatem via fit apertior: Nam et universæ naturæ unus ordo, una subest idea, cujus pars vel minutissima ceteris omnibus partibus quantumlibet spatio vel tempore remotis, connectitur. Nobis eorum quæ humano corpori cum sano tum infirmo accidant, sint ne illa interna an ab externâ aliqua vi oriantur, inquisitione antiquius nihil esse oportet, idque cum alias ob causas tum vel maximè quia ex tanta turbâ hominum qui huic nostræ ætati antecesserunt, perpauci fuerunt eo animo quo homines ad inquirendum et ad progrediendum impelluntur: itaque hi quum iis disciplinis quibus pueri imbuti erant, tritis sanè parumque fructuosis, emolumentoque addicti essent, ars nostra etiamnum misere imperfecta est. Quotus enim quisque professionis nostræ est, viri spectatissimi, quin ad alios quotidie adeat quos sanari posse desperet, ab aliis autem quos sanandos susceperit, re infectâ cogatur discedere —nedum ut iis, quibus mederi velit, nil nisi irritam molestiam aut etiam dolorem infligat. Pro his autem omnibus stipendia sumimus. Quæ si ità perpendeamus ut oportet, nunquam profecto nos deterreat aliorum vel hebes vel sui tantum memor socordia, aliorum malitia aut inanis arrogansque superstitio, ne, quidquid novi proferatur, id verum necne sit, pertentemus: sin autem verum sincerumque esse judicetur, firmiter et ex animo coram omnibus hominibus amplectamur: *Πάντα δοκιμάζωμεν, τὸ κάλον κατέχωμεν.* Reminiscamar, quantâ contentione animi unicæ illi veræ sanguinis rationi resisteretur. Repetamus etiam illud, quod cum Asellius lacteorum meatium naturam exposuisset, quos quidem chylo fluere priscis temporibus viderat Erasistratus, ii quorum summa in his rebus erat auctoritas, oculorum testimonium respuebant. Itaque Thomam Bartholinum audimus querentem ne unum quidem in universitate Montis Pessuli doctorem rei tam certæ fidem præstare velle: tantâ erat apud eos in veneratione Galeni auctoritas, pro quâ tamquam pro aris atque focis decertabant: recentiorum hominum experimentis omnino neglectis. Quid dicam, quod cum Pecquetius, ductu thoracico invento, per eum ductus lacteos in sinistram venam subclavianam esset persecutus, idem ortus est clamor, quum nemo ferè medicinæ aut

chirurgiæ professor veteri isti opinioni, chylum per venas in hepar receptum, ibique in sanguinem conversum renunciare vellet; et ipse quidem Harveius, anno jam ætatis suæ septuagesimo septimo a veteris superstitionis vinculis liberare sese non posset; Thomas autem Bartholinus in eâdem sententiâ commorabatur, ut tamen illud suggereret subtiliores fortasse chyli partes in thoracem per novos illos ductus meare, crassiores, ut quibus majore concoctione opus esset, in hepar pervenire.

Reminiscamur etiam, varietatem sexûs in quibusdam plantis, quæ mutuo opere propagantur, quamquam et veteribus nota erat, et ab Alpino in seculo decimo sexto accurate demonstrata, postea autem in decimo septimo cum a Grewio comprobata, tum a Millingtono incredulis Oxoniensibus impressa, tamen à Tournefortio rejectam esse, neque ullum in ejus libro locum habere; eandem rem a Pontederâ, postquam eam diligenter inspexisset, absurdam esse et fabulosam pronuntiatam: denique in proximo superiori seculo, ab Alstono, qui erat Botanicæ in Universitate Edininsi Professor vehementer oppugnatam. Quid dicam violatum non solum ingenium, sed etiam humanitatem, quæque in emendandâ ratione chirurgicâ vel optima exstiterint, superbè, contumeliosèque rejecta. Ecquis vestrûm, nescit, auditores, quod, cum iis vulneribus quæ missili plumbo facta essent, pro atrocissimo sanè remedio, oleo fervente, mitiora levamenta felicissimo eventu substituerat Ambrosius Parens, tota fraternitas tam vehementer exarsit, ut ipse multo post coram Carolo nono, Galliæ principi tam sanum humanumque inventum defendere cogeretur: Eundem postquam experimentis factis comperisset posse, membro amputato, arterias ita colligari ut eruptio sanguinis cohiberetur, (id quod hodierno die mos est), idque divulgâsset, ceteri omnes coætanei in eum irruebant, et in illo tam barbaro more perseverabant, ut recenti vulneri aut picem ferventem aut ferrum ab igni candescens applicarent.

Neque vero longum est ex quo medici ab usu antimonii abhorrebant; quod in Galliâ ita quandam aversabantur homines, ut A. D. MDLXVI., Lutetiæ Parisiorum Medicinæ

Collegium ejus usum vetuerint, corumque decretum senatûs consulto confirmatum fuerit; post anno MDCIX., Paumierius, Francogallus, medicus sanè eminens, qui vetitum illud pharmacum præscribere esset ausus, gradu multatus est. Proximo seculo eum, qui novum ex antimonio præparatum medicamentum invenerat, doctorem medicinæ Jacobi nomine notissimum acerrimè persecuti sunt nostri medici, qui eum, sicut ipse testatur "nullis non conviciis calumniisque vexabant, neque ab ullâ re desistebant, quominus hominem tam odiosum quasi radicitus eruerent." Cujus tamen medicamentum quoad facere possumus in pharmacopœia nostrâ imitamur: multa etiam parum hâc imitatione contenti, neglectisque statutis nostris, quibus ne secreta adhibeamus medicamenta prohibemur, verum "Pulverem Jacobi" præscribunt.

Corticis quoque Peruviani usum multi ex nostris medicis incredibili quâdam acerbitate rejiciebant. Cujus, postquam ingenti pretio tantum venisset quantum ad nostras oras esset expositum, mutatione sane admirabili usus respuebatur, et brevi quodam tempore multa millia librarum nullo emptore in horreis et apothecis jacebant; quum presbyteri nefas esse affirmarent illo medicamento uti cujus virtus (si qua inesset) non nisi ab Indorum cum diabolo conventu orta esset. Ipsum quoque Cromwellum mori potius siverunt medici, quam corticis decoctionem sumere. Et is quidem a quo rectam ejus administrandi rationem justi medici didicerunt, Talborus, contumeliosissimis calumniis est petitus, et pro mero empirico habitus. Serius igitur Mortono nostro erat adversus medicorum quod tum esset, contendendum; is qui, ut oratoris Harveiani A.D. MDCCLVI. verbis utar, "Medicis tunc falso damnatum, regnoque pulsum, *examinavit*, absolvit, reduxit.

Variolas inoculatione propagatas mulieri, animo sane virili, debemus. Nam etsi Variolas ita susceptas mitiores accidere centies demonstratum erat, tamen res a multis improbata erat: cujus nulla scilicet ratio adduci posset. Itaque multis utrinque disputatis, multisque in pejus, seu casu seu datâ operâ conversis, quum ea quæ ab ipsis auctoribus proferrentur vulgo cavillarentur homines, negarentque ex inoculatione istâ

aut germinare variolas, aut postcà in eodem minus recursuras. Per decem igitur annos, scicilet ab A.D MDCCXXX. ad A.D. MCCXL. inoculatio in desuetudinem apud nostros homines prolapsa est. Quæ quidem anteá in scholis condemnata erat; etenim anno MDCCXXIII. thesin accepimus his fere verbis propositam "Ergo variolas inoculare nefas." Candidatus erat Ludovicus Duvrac, Præses Claudius De la Vigne. Et sanè theologi nescio qui inoculationem denunciarunt, ut dicerent eam ab impietate ortam, nefariumque diaboli inventum esse: quod qui facerent, eos atrocissimum veneficorum genus in terram ab inferis dimitti.

Adversus Vaccinationem multo etiam vehementius pugnatum, eaque dissensio magis in Angliâ quam in ullâ aliâ civitate exardebat. Quæ cum ita essent, Jennerum, (qui Sydenhamo similis in hanc societatem nunquam, quod maxime desiderandum esset, receptus est,) benevolenter sanè admonebant amici ut ne Regiæ Societati illud suum imaginarium inventum communicaret: Tamen is quoque permultos nactus est, non modo incredulos, sed qui aperte contrà eum dicerent, etiam qui malignè adversarentur; et id quidem post nostram memoriam.

Ut autem aliud exemplum afferam, qui nescit ex physicâ quâdem necessitate sonitus e pectore profluentes certas aliquas subire vices, mutationibus quibusdam in pulmonum et thoracis conditione factis? Tamen in Laeneccii observationes graves quidem illas et perpulchras quanta eruperit contumeliæ proluvies, nemo ferè vestrum, auditores, nescit: neque vero, verâ cerebri structurâ ab immortali illo Gallio compertâ atque illustratâ, quantus sanè risus quamque diuturnus sit exorsus.

Hoc ipsum quondam Collegium unum ex sociis carceri inclusit, quia a Galeno dissentire ausus esset; alterum medicum, quia cantharides intus sumendas administrâsset: quæ ambo quotidie nos omnes apertè committimus.

Denique acidum hydrocyanicum quod magnâ esse utilitate satis erat demonstratum, fere viginti sunt anni, ex quo Pharmacopœium concilium administrandi formulam proposue-

runt: Quæ tamen, datis epistolis pænè innumerabilibus ab hujus Collegii sociis, in quibus novi medicamenti introductioni objicerunt quod periculosum, quodque inutile esset, me præsente est rejecta: eadem nunc est et apud Pharmacopœiam et in universum usitata.

Horum obliviscamur nunquam: nunquam aliorum auctoritatem arrogantiamve, nostri consuetudinem irrisionisve metum tantum sinamus apud nos valere, ut veritatis parum studiosos, nedum inimicos, efficiat. Ita, si veritatem verè sincereque amabimus, et præ aliis omnibus æstimabimus, mutuum quoque amorem et benevolentiam profecto concedemus. Habendus est omnino, auditores, ante oculos memorabilis ille apud Harveii opera locus, quem, quia nihil magis ad rem dicturus fore arbitror, totum decerpsi:

"Philosophi veri, qui amore veritatis et sapientiæ flagrant, nunquam se tam σοφὲς, sapientia plenos reperiunt aut suo sensu abundant, qui veritati, a quocunque et quandocunque venerit, locum dent; nec tam angusti animi, ut credant quamvis artem aut scientiam adeo omnibus numeris absolutam et perfectam a veteribus traditam, ut aliorum industriæ et diligentiæ nihil sit reliquum; cum profiteantur plurimi, maximam partem eorum quæ scimus, eorum quæ ignoramus minimam esse: nec ita traditionibus et præceptis quorumcunque addicti, inservire se patiuntur philosophi, et libertatem perdunt, ne oculis propriis fidem adhibeant: nec ita in verba jnrant antiquitatis magistræ, ut veritatem amicam in apertis relinquant et in conspectu omnium deserant. Sed sicut credulos et vanos, omnia prima facie admittere et credere; ita manifesta sensui non videre, et luce meridiana diem non agnoscere, stupidos et insensatos pariter existimant. Et non minus poëtarum fabulas et vulgi deliramenta, quam scepticorum epochen, in via philosophica declinare docent. Omnes enim studiosi, boni, honestique, nunquam ita passionibus indignationis, invidiæ, obrui mentem sinunt, quo minus audiant æquo animo quæ pro veritate proferantur, aut rem vere demonstratam intelligant: nec turpe putant mutare sententiam, si veritas suadet et aperta demonstratio: nec errores

licet antiquissimos, deserere arbitrantur inhonestum; cum optime norint quod humanum sit errare, decipi: et quod casu multa reperta esse contingat, quæ discere quivis a quovis possit, a juvene senex, a stulto intelligens."

In exercitatione altera ad J. Riolanum ita scribit:

"Non desunt qui vanis quibusdam et fictis, ex præceptorum auctoritate receptis assertionibus, vel probabilibus propositis, quibusdam captiunculis vacuis, obstrepunt: multisque verbis, aliqui insuper, iisque haud dignis, sed sæpe maledictis, nec sine convitiis et contumelia, oblatrant; quibus nihilo plus agunt, quam ut dent operam vanitatem, et ineptias suas, et malos mores, argumentorumque (quæ a sensu petenda essent) inopiam prodere, et cum falsa sophistica ratione adversus sensum insanire videantur." "Quam arduum et difficile sit, nullam experientiam habentes vel in quibus experientiam aut sensibilem cognitionem non habent, docere; et quam inepti et indociles inexpertique auditores sint ad veram scientiam; cæci de coloribus, surdi de consonantiis judicia plane ostendunt."

Nunquam autem retinenda magis in animo atque memoriâ videntur ea omnia quæ enumeravi, quam hodierno die, quum nobis ad considerandum proposita sint multa quæ non solum physiologis et pathologis admiranda videantur, sed quæ summi nobis omnibus momenti esse debent, quippe quæ ostendant posse averti dolores ac cruciatus quos et manibus chirurgorum subjecti, et variis morbis afflicti fermè patiuntur. Horum quæ vocantur phænomena extrà dubitationem sunt: commemorantur enim scriptoribus quam veteribus tam recentioribus: eadem nos ipsi videmus: alii rarius, alii quotidie. Jam, quod est enucleandum, viri spectatissimi, illud est; utrum, quæ nobis agentibus neque satis perspicientibus fiunt, ea certâ quâquam ratione ac lege fieri possint, ut nostræ voluntati tanquam obediant et subjecta sint. Quod quidem solâ experientia decerni poterit. Quæ autem è tali arte consecutum sint, attendite, quæso, animis, dum brevissimè quod potero expediam. Communis sensus suspensio: sive, ut Græco verbo utar, *ἀναισθησία*, quid est, nisi paralysis species, in

quâ nullum dolorem subjiciunt vulnera? Qui status si ad tempus et certis legibus possit induci; sequitur necessariò posse aliquem chirurgicas operationes per nostram artem ità subire, ut dolorem sentiat nullum.

Illud etiam solâ experientiâ comperiendum est, utrum ea quæ jam perstrinxi, efficiendo, aut illis utendo rationibus quæ ad ea efficienda sæpissime valent, curari possint morbi.

Hæc omnia, auditores, sedatè placidèque experimento pro se quemque examinare et, si poterit, decernere, professionis nostræ hominibus officium est summum atque gravissimum. Ita facientem jam me decem viderunt anni: quæ autem mihi comperta sunt et palam facta, EA APERTE AC SINE TREPIDATIONE VERA ESSE AFFIRMO: In iis qui chirurgorum manibus subjiciuntur doloris intermissionem: tum in quibusdam morbis quietem ægrotis ac tranquillitatem allatam, tum denique in aliis ipsius morbi sanationem usitatioribus modis omnibus frustrà tentatis.

Quæ cum ita sunt, ego vos magnoperè oro atque obtestor, ut tantam vim tot argumentis humanâ naturâ inesse comprobatam, si unquam apud vos veritatis amor, si professionis nostræ dignitas, si denique omnium hominum salus et felicitas valet, diligentissimè investigetis.

DIXI.

HARVEIAN ORATION.

ENGLISH VERSION.

HARVEIAN ORATION.

"To maintain friendship, there shall be at every meeting once a month, a small collation, as the president may think fit, for the entertainment of such as come; and once a year a general feast for all the fellows; and on the day of such feast shall be an Oration, in Latin, by some Member, to be appointed by the President, two eldest Censors, and two eldest Elects, so as not to be appointed two years together, in commemoration of the Benefactors by name, and what in particular they have done for the benefit of the College, with an exhortation to others to imitate: and an exhortation to the Members to study and search out the secrets of nature by way of experiment, and for the honour of the profession to continue mutually in love."

These are the words in which Harvey founded the annual oration named from him, and which are extracted from a deed, dated June 21, 1656, conveying to Heneage Finch and Jeffrey Palmer, fifty acres of land, called News, in Burmash, Kent, for the use of the College after his death.

The monthly "small collation" is continued at the Comitia Minora, in the form of coffee and cakes, and the annual "Oration" is continued, and "in Latin;" but the "general feast" has not been celebrated for five and twenty years, the money being applied, as there is authority for doing, to the solid purposes of the College, whose means have never been ample, and are all spent in the performance of what are its imperative duties.

The words—"Benefactors by name, and what in particular they have done for the benefit of the College"—relate evidently to those who have bestowed privileges or property upon our institution, and the College sanctions this interpretation by placing the names of such only on the tables hanging around our theatre that profess to contain the list of our "Benefactors."

At the head of these stands our founder, LINACRE. He was a Fellow of All Souls College, Oxford, and continued his Latin studies at Bologna, under Angelo Poliziano, one of the most elegant Latin scholars of the age, but whose purity of style he at length surpassed; and afterwards at Florence, under Demetrius Chalcondylas, an Athenian, he learnt *Greek, which was then not taught at Oxford, where it is now so prized, and was introduced against the fiercest opposition,* THE FACTIONS OF GREEKS AND TROJANS COMING FREQUENTLY TO BLOWS. On his return from Italy to Oxford, he perpetrated the innovation of teaching Greek before a professorship of that language was founded by Cardinal Wolsey; and, after the spirits of those, whose manners the ingenuous arts had failed to soften and preserve from asperity, were grown cool, and Greek was taught as a matter of course, *an equally furious opposition was made by a party of the Grecians to the introduction of a more correct pronunciation of their language,—the Roman Catholics fighting for the old pronunciation, the Protestants for the new—Bishop Gardiner, on the authority of the king and council, whipping, degrading, and expelling those who refused to continue the corrupt sounds, and declaring that* RATHER THAN ALLOW THE INNOVATION OF THE IMPROVED, IT WOULD BE BETTER FOR THE GREEK TONGUE TO BE BANISHED FROM THE UNIVERSITY. Linacre and another physician named Ruellius are mentioned by Erasmus as the only physicians of modern Europe who had studied Greek in their youth; and he is said to have been the first Englishman who read Aristotle and Galen in the originals. But an Englishman, named Phreas, a Fellow of Balliol, who flourished half a century before Linacre, had proceeded to the Italian Universities, and there become as fine a Greek as Latin scholar, studied civil law and medicine, and, graduating in the latter, acquired a large fortune by practising physic in Italy. He was "a premature production of English literature" under an Italian sky; but he spent the greater part of his life and died in Italy, and contributed nothing to the reformation of English physicians. Rabelais, who was twenty years younger

than Linacre, and, though generally known only as an incorrigible wit, was a prodigy of learning and science, and an eminent physician, published and lectured upon Hippocrates and Galen, and was *hated and abused by all his French brethren on account of his extraordinary merit, "particularly because he studied Greek,* THE NOVELTY *of that language making them esteem it not only barbarous but* ANTICHRISTIAN.—Such were the classical attainments of Linacre, that he translated many works of Galen, and into Latin so beautiful that his friend Erasmus declared Galen had now spoken better Latin than ever he had Greek. He studied natural philosophy and medicine at Rome, graduated in physic both at Padua and Oxford, and delivered gratuitous lectures upon medicine in the latter university. When too infirm to practise, he wrote learnedly and acutely upon general grammar and the Latin tongue, and in language reminding scholars of Terence and of Celsus. Although we are indebted to him for no original observation, no improvement of practice, and he probably was a mere old woman at the bed-side compared with even the common run of practitioners of the present day, he appears to have been a highly-informed physician as far as the ancients could teach him, and to have possessed great sagacity and sound judgment. He acquired immense practice, and stood without a rival at the head of his profession; becoming physician to Henry VII. and VIII., and to Edward VI., and not through interest, accident, caprice, or subserviency,—which have raised so many without the education of the scholar and man of science, or more than a scanty amount of professional knowledge and skill, to such posts,—but through the force of his attainments. To him it could not be said, as it was to Piso by Cicero, "You have crept up to honours through mankind's ignorance,"—"*Obrepsisti ad honores errore hominum.*" He was perfectly straightforward, a faithful friend, the ready promoter of all the meritorious young, and kind to every one, —"a thorough hater of everything dishonourable and deceitful, faithful to his friends, and beloved by every one,"—"*fraudes dolosque mirè perosus,*" says Caius, "*fidus amicis, omnibus juxta charus.*" To such a man the spectacle of brutally

ignorant pretenders treating the sick all over the kingdom without restraint must have been distressing; and the duty of exerting his great influence with the government to reform the practice of his profession must have been felt by him overwhelming. He founded two lectures on physic in Oxford, and one in Cambridge: and, when at the zenith of his reputation, of his wealth and his power, he was not contented with the state of the profession that had served his own purposes, but employed his interest with Henry VIII. and Cardinal Wolsey to have the regularly bred physicians of London and seven miles round collected into a body in 1518, with the sole privilege of licensing physicians throughout the kingdom, except graduates of Oxford and Cambridge, and even them before they could practise in London; and to examine the drugs of which prescriptions were to be compounded. The benefit of this institution to the public has been incalculable: and the regulation of admitting none to examination, as a matter of course, for the fellowship, unless graduates of Oxford and Cambridge, while the highest education was with difficulty obtained by us without their walls, raised the profession to a height in society that it would have been long in attaining, by at once securing to it a body of men educated from childhood as gentlemen, trained in all the best knowledge of the time, and devoted to a long study of their profession. The progress of society has rendered alterations of our laws necessary; but to this College are owing the present standing not of English physicians only, but of English surgeons, general practitioners, and even dentists. Linacre was our first President, and continued in office till his death, bequeathing to the College his house in Knight-Rider Street, in which it had always met.

Fifty years later flourished Caius. He, too, after great proficiency at Cambridge, studied in Italy, as was then the custom of our best educated physicians, learning anatomy at Padua, under Vesalius of Brussels; indefatigably collating the manuscripts of the most celebrated libraries to furnish correct editions of Galen and Celsus; and lecturing upon the

Greek text of Aristotle in the University of Padua. On his return to England, Caius, like Linacre, translated portions of Galen, revised editions of several of his works, wrote learned commentaries in the purest Latin upon some and absolutely restored others, as well as two of Hippocrates that had escaped notice,—being equal, possibly superior, to every other European scholar of his day in profound and critical knowledge of Greek. He gave demonstrations on the dead body annually to the College of Surgeons, at the request of Henry VIII.: and was an original observer, for he wrote a valuable account of the "sweating sickness" as he saw it; and a treatise by him upon British dogs, as well as one upon certain rare plants and animals, became celebrated. He wrote also upon the British springs, and much upon antiquities. But for his passion for the writings and languages of the ancients, he might, through his acuteness and unceasing industry, have become a great discoverer. He too, on account of his extraordinary merit, was summoned to Court, and was physician to Edward VI., Mary and Elizabeth; and President of our College for seven years. The celebrity of his name maintained the celebrity of the institution; he invented the honorary insignia of our president; he not only for twenty years, even while President and Court physician, taught anatomy to the corporation of surgeons, but obtained the privilege to our College of annually taking the bodies of two executed criminals for dissection, and left a fund to defray the expense; he composed, in very pure Latin, our first annals from the formation of the College to the last year of his presidency, and was a strenuous supporter of College rights; and, when surgeons insisted upon prescribing internal medicines to their patients, he publicly opposed them so strenuously, before the Queen's Commissioners, that, in spite of the Bishop of London, the Master of the Rolls, and others, the claims of the surgeons were pronounced unlawful. To prohibit a surgeon from giving internal medicine and regulating the whole management in his own surgical cases, and thus to make the expense of two practitioners necessary, is

absurd. Yet there was some ground for limiting the prescriptions of the surgeons as far as possible, because, no doubt, they prescribed for all the patients they could obtain, medical as well as surgical, not being high-minded, nor even conscientious, for they were very ignorant of medicine, having neither received medical education nor passed a medical examination. It is but eighteen years since the College of Surgeons compelled their candidates to give proofs of having attended lectures on medicine, and but eight years since they required proofs of attendance on public medical practice: and Sir Astley Cooper annually boasted in his surgical lectures that, "Thank God, he knew nothing of medicine," although he made thousands annually by prescribing for purely medical cases. No wonder, therefore, that at St. Thomas's Hospital, where he lectured, the surgeons were still forbidden to prescribe for any of their patients when I was physician to it; though, as soon as a surgeon was associated with me who had been fully educated, I totally disregarded the rules of the hospital, as absurd and injurious in reference to him, and never prescribed for his patients except at his desire.

Caius imitated Linacre in munificence, erecting a statue to him in St. Paul's, and, having employed his great influence with Mary to advance Gonville Hall at Cambridge to a College, enlarging this with a new square, and endowing it, during his life time and when old and likely to love money, with estates for the maintenance of three fellows and twenty scholars; and so much had he the good of his profession at heart, so great was his anxiety for the high education of physicians, that two of the former were required to be physicians and three of the latter medical students. He retreated to his College from the bustle of life, and became its master; and, after resigning, he continued in residence as a fellow commoner, studying and writing to the last, and attending chapel daily in a private seat built for his use. *Yet this great and good man had his name selected by Shakspeare for the ridiculous French doctor in the "Merry Wives of Windsor," and was accused by three expelled fellows of his College not merely of "shew*

of a perverse stomach to the professors of the gospel, but ATHEISM."

Caldwall, a Fellow of Brazen-nose College and a very able President, before the death of Caius, endowed, in conjunction with Lord Lumley, an anatomical and surgical lecture, which, though the facilities of publishing and the habit of reading periodicals have now rendered lectures within these walls of little importance, was, in former days, eminently useful, and has acquired a perpetual celebrity by being the occasion of the announcement of the circulation of the blood.

HARVEY was born rather more than half a century later than Caius, and, after spending five years at a grammar school, passed six in the college of the latter at Cambridge; and, like Linacre and Caius, studied and graduated subsequently in Italy, receiving his diploma from the professors at Padua in the following extraordinary terms:—"Which examination he passed so wonderfully and excellently, displaying such talent, memory, and learning, and so very far exceeding the expectations which all had formed, that he was judged fit and most sufficient in arts and medicine by all the votes of the aforesaid most excellent doctors, unanimously and cordially, not one among them disagreeing ever so little, or differing, or even hesitating." He then graduated at Cambridge, and, beginning practice in London, was appointed future physician to the city hospital of St. Bartholomew a year before a vacancy happened; and this probably through interest, as his five brothers became prosperous Turkey merchants. For the best medical appointments to our hospitals, although they involve the duties of a professor, are made by those whose qualification is only the payment of money to the charity, and the least fit who could command interest among the governors have always been appointed, to the exclusion of the most fit, if these who could not command interest. The only competent judges are the medical officers; and, when a school exists in a medical charity, these, being interested in its prosperity, would always select the best candidate. The plan, therefore,

of University College, London, should be followed in all hospitals, and in all colleges where emolument is proportionate to success;—the persons whose colleague the successful candidate will be, should be required to examine the pretensions of all the applicants, and recommend one to the electors, with a statement of the grounds of their preference. The moral force of the recommendation would secure its success, if aided by publicity. In medical charities which have no school, the same might be done with advantage; but equal reliance could not be placed upon the recommendation as where pecuniary motives instigate to honesty, though publicity might in general secure tolerable fairness. Such a measure should be urged upon the public, since the physicians of hospitals are now generally honoured with our Fellowship.—Harvey's brain must have been of superior composition and organization to those of Linacre and Caius, for he was educated precisely as they had been, was an excellent classic, writing Latin fluently and elegantly, and enjoying the ancient poets to absolute rapture, and well versed in Aristotle and Galen. Yet he found no pleasure in books as books, but only as the depositaries of truth and genius, and therefore never rested without testing the contents of scientific works, however reverenced among the learned, by a reference to nature herself, of whom they profess to be the delineators. This ardent love of learning nature and applying straight to herself is characteristic of true philosophical genius when there is activity; though it may exist with various degrees, and even a very low degree, of intellectual power. In Harvey the love, the activity, and the power in high degree, were happily united; and to them, as we shall presently find, were added the most admirable moral feelings. While delivering the Lumleyan lectures, in April, 1616, he announced the facts which at length led him to the knowledge of the circulation of the blood, and in those of 1619 he openly disclosed his convictions: but, obeying the precept of Horace, he did not print his discoveries till nine years more had elapsed, and then not in England but at Frankfort, having attained his fiftieth year.

Nothing is more remarkable than that Harvey had to discover the circulation of the blood.

Although Hippocrates and Erasistratus had taught that the arteries contain in health an imaginary thing termed animal spirits, and blood in disease only, Galen had afterwards proved that they always contain blood during life: and he gives us an amusing account of his exposure of several medical mountebanks who protested they would prove, before Galen and his pupils, that the *arteries of a living animal do not contain blood. The effrontery, utter ignorance, misrepresentation, and ultimate evasion of these men, whose names he has not condescended to transmit to posterity, are almost incredible.* One was a *very venerable old gentleman of seventy,*—*γέρων τις ἑβδομηκοντούτης πολὺ σεμνός.* Some objections he is too impatient to waste time upon and leaves them to the tender mercies of wits,—*τοῦτο μεν οὖν εἰς γελωτοποιίαν τοῖς γράφουσι τοὺς μίμους τῶν γελοίων, ἀφείσθω.**

Galen had also shewn that the left ventricle of the heart, from which cavity the arteries spring, contains blood no less than the right, with which the veins are continuous, although, like the arteries, a finer kind of blood;† and that it is the cause of the constant motion of the arteries‡, as Aristotle had already affirmed§.

He knew which openings of the heart were for entrance, and which for exit‖, and described all the valves accurately and their action in preventing reflux while they allowed advance¶. He says that the blood proceeds from the right ventricle to the lungs, though he imagines that the suction-operation of the dilatation of the right ventricle accomplishes this,**—at least jointly with the dilatation of the chest, the

* *De Anatomicis Administrationibus*, l. vii. cap. 16, D.; see also the whole chapter, and his work "*De usu partium Corporis Humani*," l. vi. cap. 17. passim.

† ll. cc. passim.

‡ *De usu partium*, C. H., l. vi. cap. 11, 80.

§ *De respir*, cap. 20.

‖ *De usu, &c.*, cap. 14.

¶ l. c. cap. 11, 14, 16,

** l. c. cap. c. 10, 15.

arteries filling during inspiration, according to him, and emptying during expiration.*

He taught that the arteries and veins communicate with each other.†

Vesalius, the fellow-lodger and companion of Caius at Padua, than whom he was but four years older, and, when but eighteen, the writer of the best work then extant upon anatomy, which had been previously but little cultivated, because *dissection, though formerly allowed, had long been discontinued as it was pronounced unlawful and* IMPIOUS, proved that Galen was right, by cutting out a piece of living artery tied in two places, and always finding it full of blood; by observing that when the heart contracts the arteries are filled, and that the blood moves rapidly and forcibly from the heart along the arteries towards their extremities; that, when an artery is divided, the blood ceases to move along it below the division, but moves along it again below the division if a reed is inserted into the two divided portions so as to re-establish their communication; and that, if a vein is tied, the portion nearest the heart ceases to be distended with blood.

Servetus, who was burnt to death in the slowest possible manner by Calvin because they differed upon a supernatural point, had taught, a little before Vesalius published and some time subsequently, that the right and left sides of the heart communicate, not by apertures in their partition, as Galen had said, but by means of the pulmonary vessels; and that the blood passes from the right side of the heart through the pulmonary artery into the pulmonary veins, and through them into the left side of the heart, purified in its passage through the lungs from fuliginous matters and supplied with something vitalizing from the air.

Realdus Columbus, in conjunction with whom Caius had given lectures on the Greek text of Aristotle at Padua almost thirty years previously, published at Venice, not only the passage of the blood from the right to the left side of the heart through the lungs, as Servetus had done, but, in con-

* l. c. cap. 10. B. † l. c., l. vi. cap. 17.

junction with this fact, the impossibility, through the operation of the valves so well displayed by Galen, of its retrogression from the lungs to the right ventricle of the heart, or from this into the vena cava.

Cæsalpinus, about twelve years later, added to all this, tracking the blood from the lungs and left ventricle into the aorta, and shewing that the left valves, whose operation had been described by Galen as fully as that of the valves in the right half of the heart, must prevent its retrogression. He maintained that the extremities of the arteries and veins communicate,—"*arteriarum ramusculos qui eum minimis venis committuntur;*" and, as Vesalius had noticed that, if a vein is tied, the portion above the ligature subsides, so he observed that the portion below the ligature swells. He says that the heart must be "the beginning of the arteries and veins,"—"*arteriarum quoque et venarum principium;*" that "they must be and evidently are continuous with the heart,"—"*oportet et patet continuas esse cum corde;*" even that "the blood makes for the heart as its source,"—"*sanguis fugit ad cor tanquam ad suum principium.*" Yet Cæsalpinus could not discern the circulation. He touched it, but would not raise the veil and behold it. "This great discovery beams upon him from every side, and mocks him, and slips from his grasp."—"*Egli la tocca,*" says Monti, "*e la palpa, e sta tutto sul punto d'alzar il velo e scoprirla.*" "*Questa grande scoperta scintilla da tutte le parti agli occhi del Cesalpini, e gli scherza e trastullasi, dirò cosi, per le mani.*"*

Why, with all these *facts*, could not physicians discern the circulation of the blood? Simply because they were possessed by *fancies* with which obvious facts were incompatible. They *fancied* that the source of the blood was the liver; that the blood was supplied to the body by the veins only, and in flux and reflux, or in onward movement without any mode of return; that it went to the lungs for nourish-

* *Prolusioni agli studj dell' Università di Pavia per l'anno* 1804, recitate da V. Monti, Pofessore d'Eloquenza, e membro dell'Istituto. Firenze. 1804.

ment only; and Galen's *true description* of the structure and use of the valves of the heart had been thought *satisfactorily refuted*. Many of these fancies were unintelligible, many inconsistent with each other: but these fancies were maintained as solid truths, explained everything satisfactorily, and were not to be given up for Harvey's newfangled nonsense. Even Cæsalpinus, though he traced the stream of blood from the cava, through the right side of the heart, the lungs, the left side of the heart, into the aorta and the arteries of every part, and alleged that the extremities of the arteries communicate with those of the veins, fancied that the blood passes from the arteries into the veins during sleep only; and the tumefaction of a tied vein beyond the ligature, instead of disclosing the truth to him, suggested the wild and untenable thought that the ligature did but make the blood flow back to its source lest it should be extinguished. *The palpable fact of the muscularity of the heart had been denied by Galen, who gave whimsical reasons to prove, in opposition to Hippocrates, that, though it seems muscular, it is not muscular, and denounced those who credited their eyes as persons who can understand nothing—"nihil intelligunt qui cor musculum esse dicunt;" who are quite in the wrong—"maxime errant qui cor musculum esse censent;" are ignorant and stupid creatures—"ignari nobis videntur qui cor musculum esse existimant, non intelligentes actionem ejus excellentiam,"* &c.* Realdus Columbus equally denied its muscularity, and Cæsalpinus ascribed the distension and subsidence of the heart and arteries to alternate bubbling up and subsidence of the blood. If persons untrained in the *fancies* of the schools, and perfectly ignorant, had witnessed the *facts* of arteries swelling above and veins below a ligature, and of arteries subsiding below and veins above it, and of animals bleeding to death from a wound of a large artery or vein, and had then been shewn all the arteries of the body communicating with one side of the heart and the veins with the other, and the valves of the heart preventing the blood from streaming except in

* *De Anatomicis Administrationibus*, l. vii. cap. 8; *De usu partium*, l. vi. cap. 8.

one direction,—from the venous side of the heart to the lungs, and from the lungs and arterial side into the aorta,—they would have at once discerned the fact of the circulation. But the education of the medical world being, as all education has hitherto been and long will be, a mixture of some truth with more fancy and error, it was not discerned; and Harvey, though he informed Boyle that he had caught the first glimpse of it when he was about two and twenty years old, and saw the structure of the valves of the veins demonstrated by Fabricius, suffered so much from the prejudices of education that he was nearly forty before he could see it distinctly. When he did behold it, and then *displayed it so clearly to others that to doubt it would* IN THE PRESENT DAY *be considered* INSANITY, *the medical world, hugging their* ERRORS *of education and satisfied of these* ERRORS *being* NATURAL TRUTHS, *were perfectly blind to his facts and necessary inferences,—had eyes and saw not,—and* MANY WOULD NOT GO AND SEE, *asserting that* IF THEY DID SEE THEY WOULD NOT BELIEVE. Harvey's facts could not be facts, because their fancies were facts. The authorities of the profession,—the leading physicians and surgeons, the professors in the various universities of Europe, lecturers and authors of all degrees, pronounced his statements to be preposterous; and, had editors of quarterly, monthly, and weekly periodicals then existed, they would have been the noisiest and bitterest of all. Candidates for degrees, implicitly believing their teachers, the great majority of whose names are now forgotten, gloried in disproving the circulation in their Theses. One Simon Boullot, under the auspices of a president named Hugo Chasles, took for the title of his inaugural dissertation in 1642, "Therefore the blood does not circulate"—"*Ergo motus sanguinis non circularis.*" One Francis Bazin, under the auspices of a president named Philippe Hardouin de St. Jacques, took for the title of his inaugural dissertation, even thirty years later,—in 1672, "Therefore the circulation is impossible"—"*Ergo sanguinis motus circularis* IMPOSSI-

BILIS." Simon Boullot and Hugo Chasles, Francis Bazin and Philippe Hardouin de St. Jacques, are no more,—

"—— not a pinch of dust remains of Cheops;"

but the blood still steadily maintains its *motus circularis*. No physician forty years old at the time believed in the circulation before he died, however long his life was spared for reflection.

Joannes Riolanus, a celebrated physician and anatomist of Paris, was the only writer to whom Harvey condescended to reply: and the labour was thrown away. For Riolanus was of course not to be convinced, and wrote again diffusely and obscurely, repeating what he had written before, and, as before, giving no experiments in opposition to those of Harvey: and, on our great countryman condescending to reply a second time, he wrote again, still not having had intellectual activity enough to make a single experiment, and doubting those of Harvey merely because they disagreed with his own fancies. Harvey wisely took no farther notice of him, but hopelessly gave him up, leaving him to that wise ordination—death, which removes men and all their settled absurd prejudices together. But the *medical profession* was not contented with denial of the truth; *they stigmatized Harvey as a fool:* and the world, thinking that the doctors were quite able to judge, philosophically dispassionate, truth-loving, and industrious in observing and experimenting, thought that he therefore must be a fool, and did not consult him as before. His friend, Mr. Aubrey, says, in a manuscript preserved in the Royal Society, "He told me himself, that *upon his publishing that Booke, he fell in his Practice extremely.*"* But, before he published his work,—when he had announced his views to his friends and in his anatomical lectures only, he had been traduced. He tells us† that he at

* *Memoirs of Natural Remarques in the county of Wilts*, &c., by Mr. John Aubrey, R.S.S. 1685. Preface, p. 5.

† *Exercitatio Anatomica de Motu Cordis et Sanguinis*, cap. i.

length published, partly on account of *the envy of persons who, receiving unfavourably and not comprehending his statements, endeavoured publicly to vilify him.* He was soon lampooned from one end of Europe to the other. But he took no notice of his enemies, for the following, he tells us in his second letter to Riolanus, were his sentiments. "To return abuse with abuse, I consider unworthy of a philosopher and of an enquirer into truth; and it seems to me better and more prudent to dissipate such evidences of bad feeling by the light of true and satisfactory observation. Dogs must bark and vomit forth what is in them, and cynics will be found among philosophers: but we must prevent them from biting or infecting with their maddening venom, or gnawing the bones and foundations of truth. I resolved never to read, much more never to condescend to answer, *detractors, idle carpers, and writers tainted with scurrility, from whom nothing solid, nothing but abuse, could be expected.* Let them indulge their depraved desires: I cannot think they will find many respectable readers; nor does the Almighty bestow upon the bad the most excellent and highly to be desired gift of wisdom. *Let them continue to revile till, if they are not ashamed, they at least are sick and tired.*"

Harvey's was a truly intellectual life, a continued course of reading, reflection, observation and experiment. His work upon animal generation is not only elegant and learned, but full of laborious and original observations and the rich thoughts of genius; and, though it is now neglected, I never open it without delight. It had occupied a large portion of his life, but *his treatment by his brethren* prevented him from giving it to the world; and, like the manuscripts of eight other works, the labour of many years, that perished in the plunder of his house by a savage mob, would never have seen the light but for the earnest entreaties of his friend Dr. Ent, who, visiting him in the retirement of his extreme old age, found him cheerful and still investigating nature, but resolved to bestow nothing more upon an ungrateful profession. "Do you wish me," said Harvey smiling, "to leave this tran-

quil harbour and trust myself again to the faithless ocean? You know *what storms my former observations excited.* It is better to study nature in privacy, than, *by publishing the fruits of hard toil, to stir up tempests which destroy all our peace and happiness for the future**.*" At length he yielded, and his friend departed with the work and permission to publish or suppress it, just as he might choose, and, on opening it, was astonished at the value of the treasure and that it should have remained so long unseen and been so humbly estimated by its author, while others pompously display their second-hand rubbish to the world. Galileo, a few years before his death, wrote to the Conte di Noailles that, in consequence of the treatment which he had experienced, he would publish no more of his labours, but, to prevent their loss to the world, thought of leaving a manuscript account of them somewhere; and in his *Dialogues* he mentions that he had found his astronomical calculations turn out exact, but had judged it wise to say nothing about them, lest their novelty should renew attacks upon him.

Harvey came as near as possible to my idea of a perfect man. His constant investigation of nature arose from the pure and ardent love of truth, unalloyed by ambition or vanity. He never contended for his own victory, but always for the victory of truth. His manners were elegant, and, having clear ideas, he always expressed himself clearly: but he never strove for fashionable or extensive practice, which would have allowed him no time for reflection, and, like a firework, caused a blaze and noise as long only as he was in activity, and ended in darkness and silence as soon as ever he ceased to see patients,—in oblivion of himself and the absence of all benefit to mankind. He was mild and unassuming, never anxious to display his own merits, never attempting anything unworthy, nor anything really worthy by unworthy means. Yet he was courageous. He succeeded in reforming many abuses which existed in Bartholomew's Hospital, especially the dishonourable practice of pure surgeons taking medical

* Ent's Dedication. *Harveii Opera omnia.*

cases under their charge, regardless of their notorious unfitness, and blind to the proof it afforded that they did not succeed in obtaining sufficient reputation or occupation by surgery.

He was physician extraordinary to James the First, and also in ordinary to Charles the First, who, whatever were his political faults, set a bright example to all liberal monarchs by his encouragement of science and the arts, gave Harvey every facility in the Royal Parks for his inquiries into generation, went with the court to witness his experiments, effected his appointment to the wardenship of Merton College, Oxford, and is recorded on our walls, no less than Mary, Elizabeth, James the First, and Charles the Second, to have bestowed privileges upon us. George the Fourth paid us the compliment to resolve that whoever might be our president should be *ex officio* one of his physicians in ordinary.

Like the other greatest British names in our profession,—Glisson, Sydenham, Jenner, John and William Hunter,—Harvey was honoured with no title. Indeed, the majority of really great British medical men have received no titles; and the majority of those who have received them have been distinguished for nothing but good luck, and often but for little even of that. When he was seventy-six years of age and had been a fellow forty-seven years, and five and thirty years had elapsed after his promulgation of the circulation in the theatre of the College, and one year after he had bestowed upon the College a noble Roman edifice*, containing an elegantly furnished convocation room and a library filled with surgical instruments and choice books on many subjects, he was elected president; but he declined the honour, and the former president, Dr. Prujean, was re-elected. On his announcement of this

* The Inscription on the frieze of the edifice bore no allusion to Harvey, recording the names of only the President and an Elect, both unknown to fame,—*Suasu et cura Fran. Prujeani, Præsidis, et Edmundi Smith, Elect. Inchoata et Perfecta est Hæc Fabrica.* An. MIↃCLIII. This is a proof of Harvey's modesty: for the College must have wished to inscribe the name of its sole founder upon it.

munificent intention, however, they had voted him a statue; and they paid his remains every honour. For he lived to see his discovery universally acknowledged, though so late as 1816 a book was published by a surgeon named George Ker to disprove the circulation. Such books are valuable to collectors of useless curiosities. He bequeathed to the College his library, and his paternal estate of fifty-six pounds per annum, for the feast, the oration, and the keeper of his library and museum. The late Earl of Winchelsea presented to us in 1823 six long preparations of the dissected nerves and blood vessels spread out upon boards, probably employed by Harvey in his lectures, if not actually made by him.—During the Commonwealth the premises of the College were condemned to public auction as Church property, for they belonged to St. Paul's, and Harvey would not have been able to add to its buildings in 1652, had not Dr. Hamey,—who was highly informed in his profession and is recorded in our annals by a President, named Whistler, to have been "so good a Latin scholar that Latium was not more Latin, so good a Greek scholar that Athens was not more Attic,"—"*tam sciens Latinæ linguæ, non ipsum Latium magis Latinum fuerat; tam Græcæ, non ipse Athenæ magis Atticæ,*" and appears to have absolutely loved the College,—purchased the house and garden, which in two years he presented to it in perpetuity. The great fire of London in 1665 destroyed the old edifice and all Harvey's new buildings with nearly all the rich library and their other contents, his statue with an inscription setting forth his merits as immortal being lost among them, and the greater durability of fame from advancing mankind a step than from monuments and inscriptions thus strikingly exemplified. The same munificent Hamey so exerted himself and contributed again so largely that the College soon possessed a finer edifice than before; and at his death he bequeathed to us two estates. His love of the College was quite unselfish, for he declined the offer of a statue, and repeatedly declined the Presidency. Such was his reverence for his medical degree that he, more than once, respectfully declined the offer of knighthood from

Charles the Second, "lest he should contaminate his degree," —"*ne Doctoratûs excellentiam contaminaret**." His degree was indeed an honourable title, for it was bestowed after a sound education and a searching examination, and not sold to him by a German University, disgracing itself by a sordid traffick and inundating England with counterfeit doctors, whose foreign titles ought not to be allowed among us till specially recognised by an examining body of our own.

I must now mention a benefactor to the College, who was *not mentioned by a single orator, as far as is known, from the time of Harvey till last year,* when the professor of Chemistry and Botany at Oxford first pronounced the name of GILBERT at this anniversary. Every orator, nevertheless, was bound to remind the College of him, for he bequeathed to us all his library, minerals, globes, and philosophical instruments. Though thus neglected, he was in truth one of the brightest glories of the College. Like Galileo, he pursued the true course of investigation: pointed out the impossibility of adding to the stock of knowledge as long as men imagine themselves to be philosophizing, while "only repeating a few cant words and the unmeaning phrases of the Aristotelian school," and "ringing changes on a few trite truths and many unfounded conjectures," "with supine inattention to what" is before their eyes and "entirely in their hands:" and charged, "in a peremptory manner, all those, who pretend to inform others," to relinquish these habits, and "immediately to betake themselves to experiment,"—striking us by his almost perfect sameness of sentiment and language with Lord Bacon. He strictly followed this method on the subject of magnetism, and with equal ardour, genius, and success, "becoming the founder of experimental science in England." After "unwearied diligence in searching every writing upon the subject, and in get-

* *An Historical Account of the College's Proceedings against Empiricks and unlicensed Practisers, &c., in every Prince's reign, from their first incorporation to the Murther of the Royal Martyr, King Charles the First.* By Charles Goodall, Doctor in Physick, and Fellow of the said College of Physicians. 1684. Epistle Dedicatory.

ting information from navigators," and in making original experiments at great expense, he produced a work full of discoveries and general views, and containing almost all that is now known of magnetism, independent of electricity, and much that has been published by "posterior inquirers of high reputation, and received by the world as notable discoveries."* So much less is it known in England than abroad that, while two editions only of it have appeared in England, no fewer than five were published in Germany and Holland above two hundred years ago.† With all this, he was in large practice in

* Our great countryman, RAY, led the way for modern naturalists, as Gilbert did for magnetists, and is at length appreciated. He "found the sciences of zoology and botany," says Professor Bell, the President of the Ray Society, in a note to me, "a chaos, and reduced them to order. He was the first naturalist of modern times who had a right appreciation of the value of natural character; and his mind was so peculiarly orderly and systematic, that he seems to have held the wand of the fairy in the old legend, and to have arranged everything in its due and proper place by a touch. Cuvier hence calls him '*le premier veritable methodiste.*' He was the principal guide to Linnæus in his system. In botany he was perhaps even more original than in zoology, for in the latter he had before him the system of that greatest of naturalists, Aristotle, whose ideas of the natural system have only been confirmed and amplified by the successive observations of more than twenty centuries.

"In the treatise, entitled *The Wisdom of God manifested in the Works of Creation*, Ray drew the first plan of the system of natural theology, which has since been enlarged and methodized by Derham, Paley, &c., &c.

"His works amount to between 40 and 50—on various branches of science, on philosophy and divinity.

"His life was a continual example of piety, benevolence and charity, and his humility was as remarkable as were his acquirements and talents."

Gilbert and Ray were natives of Essex, usually regarded as the land of calves, proving again,—

"Summos posse viros et magna exempla daturos
Vervecum in patria crassoque sub aëre nasci."

Linacre	was born in	1460,	died in	1524,	and lived	64	years.
Caius	,,	1510,	,,	1573,	,,	62	,,
GILBERT	,,	1540,	,,	1603,	,,	63	,,
HARVEY	,,	1578,	,,	1657,	,,	79	,,
SYDENHAM	,,	1624,	,,	1689,	,,	65	,,
RAY	,,	1627,	,,	1704,	,,	77	,,
JENNER	,,	1749,	,,	1823,	,,	73	,,
GALL	,,	1757,	,,	1828,	,,	71	,,

† *A system of Mechanical Philosophy.* By John Robinson, LLD., late professor of Natural Philosophy in the University of Edinburgh, with notes by

London; and Elizabeth, who, herself highly endowed, quickly discerned superior merit and gloried in rewarding it, to her great honor sent for him to court, made him her physician in ordinary, and allowed him a pension to encourage him in his investigations. He was chief physician to James the First also, before the desserts of Harvey, almost forty years his junior, met with that reward. His death occurred a year before Harvey was examined for admission among us, and the circulation of the blood was therefore unknown to him. *As his discoveries did not touch upon medicine, his medical brethren did not persecute him, but allowed him to retain his practice* and occupy himself in his leisure moments with his innocent investigations, for which they cared nothing. Like Harvey, he was never president of the College, nor did he receive a title. So great was his resemblance to Harvey, that your last orator justly styled him an illustrious man, "deserving to be compared with Harvey!" "The secrets of all nature were investigated by him with the same skill and judgment as the wonderful structure of animals by Harvey. For, as the blood pervades the bodies of animals, so a more subtle fluid, called the electric, appears to pervade the universe; and, as the blood is the source of life and sensibility which distinguish living from dead matter, so the electric fluid is the source of the motions which maintain the coherence of all things. If, therefore, we bestow due praise upon the discoverer of the circulation, is not he worthy of honour who threw such light upon a fluid which is less discernible from being more subtle, and unites together the particles not only of the blood but of all earthly things, that its hidden characters are at length known and its secret courses found out?"*

Sir David Brewster, Edinburgh 1822, vol. iv. p. 207, &c. Professor Playfair, Preliminary Dissertation in the *Encyclopædia Britannica*, p. 625.

* It is an hypothetical expression of Gilbert's discoveries to say that they relate to a *peculiar subtle fluid*, though I employed the term electric *liquor* in the Latin myself on the authority of Muretus, almost a classic and the best writer of Latin since the time of Cicero. There is no proof of a peculiar electric, galvanic, or magnetic fluid, of a peculiar fluid of heat or of light, of a nervous fluid for the nerves in general or for life, nor of a peculiar subtle something, whether subtle matter or

Sir Thomas Brown, Dr. Gulston, and the widow of Dr. Croone, followed the example of Lord Lumley and Dr. Cald-

immaterial substance, (if immaterial substance is an intelligible term,) called soul, for the intellectual and affective phenomena of man and brute. Electric, galvanic, magnetic phenomena, and the phenomena of heat and light, are phenomena of matter,—if of an universal ether, still of matter; the phenomena of life are phenomena of matter, and as real in the plant without nerves as in the animal with nerves the most abundant; the phenomena of intellect and affections are phenomena of matter called brain, &c., and as real in the lowest brute as in the highest man, for the lowest has consciousness or perception, desire, and will,—has personality,—and many of those phenomena are stronger in brutes than in man, some in one, some in another. Motion or vibration may be inseparable from all phenomena.

The absurdity of pronouncing matter inert, dull, incapable, &c., whereas it is instinct with almost endless properties, according to its nature or composition and external circumstances, capable positively of all the phenomena which we behold, and of myriads, no doubt, of others which we have not yet beheld, might excite our anger, were we not sure that mankind could not think and act otherwise than they do at each period of their thinking and acting, and that all are to be pitied for all their errors.

I never can refrain from laughing when I read the following passage of Newton's tutor, Dr. Barrow. "To think a gross body may be ground and powdered into rationality, a slow body may be thumped and driven into passion, a rough body may be filed and polished into a faculty of discovering and resenting things; that a cluster of pretty thin round atoms (as Democritus, forsooth, conceited); that a well-mixed combination of elements (as Empedocles fancied); that a harmonious contemperation (or crasis) of humour (as Galen, dreaming, it seems, upon his drugs and his potions, would persuade us); that an implement made up of I know not what fine springs and wheels, and such mechanic knacks (as some of our modern wizards have been busy in devising), should, without more ado, become the subject of so rare capacities and endowments, the author of actions so worthy and works so wonderful, &c., &c., how senseless and absurd conceits are these! How can we, without great indignation and regret, entertain such suppositions?"*

Why be indignant? Why despise matter which you believe the work of God, and which, when compounded and organized and acted upon, as we see it in the form of living brain, does in positive fact feel and will and think? How much wiser was Locke's view: "All the difficulties that are raised against the thinking of matter, from our ignorance or narrow conceptions, stand not at all in the way of the power of God, if he pleases to ordain it so." The faculties of brutes prove, "either that God can and doth give to some parcels of matter a power of perception and thinking, or that all animals have immaterial and consequently immortal souls as well as men; and to say that fleas and mites have

* *Seventh Sermon on the Creed.*

wall, in founding a few lectures. But a flaw in the will of the first prevented the College from receiving this intended benefit, —a circumstance disgraceful to his heirs and instructive to testators. Henry, Marquess of Dorchester, proud, like some other noblemen in former days, to be a fellow of our body, just as royal and noble persons at present delight to become members of trading corporations, the eminent Selden and Ashmole, Sir T. Mayerne, Sir E. Bish, Sir R. Napier, Dr. Holbosch, Dr. Hale, and Dr. Baillie, augmented our library. The latter gave us also a thousand preparations in morbid anatomy, nine hundred of which had been made with his own hand: and nine hundred pounds for the preservation of both gifts. From having been occupied in teaching anatomy during the early

immortal souls as well as men, will possibly be looked upon as going a great way to serve an hypothesis."* How much wiser was Bishop Watson, who writes, "When I went to the University, I was of opinion, as most schoolboys are, that the soul was a substance distinct from the body, and that when a man died, he, in classical phrase, breathed out his soul, *animam expiravit;* that it then went I knew not whither, as it had come into the body, from I knew not where nor when, and had dwelt in the body during life, but in what part of the body it had dwelt I knew not. . . . This notion of the soul was, without doubt, the offspring of prejudice and ignorance."†

The acknowledgment of the positive fact of the brain, or whatever other name may be given to certain nervous matter possessing the properties of feeling, willing, and thinking—of personality, does not interfere in the least with the belief of a future state, the only evidence of which must be a revelation. This is a supernatural matter, and to be determined by supernatural evidence only; while natural knowledge should always be prosecuted without any reference to revelation or any fear of inconsistency with it. See my *Human Physiology*, p. 3, &c., 30, &c., 360, &c., 38, &c.; and *The Zoist*, Vol. III., p. 421, &c.

The ignorant of all ages have ascribed natural phenomena, especially when new to them, to a soul in the material, or to miraculous agency, or indeed to diabolic or satanic influence:—all pure fancies. "Thales ascribed the characteristic phenomenon, the attraction of a piece of iron, to the agency of a mind or soul residing in the magnet,"‡ just as, even in the present day, the world at large ascribe the phenomena of the brain to a soul residing in it. "The magnetical properties of the loadstone, like the electrical ones of amber," says Sir David Brewster, "were supposed to be miraculous."§

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* *Second Reply to the Bishop of Worcester*, p. 466.

† *Anecdotes of the Life of Bishop Watson*, p. 14, &c.

‡ Dr. Robinson, l. c., vol. iv., p. 203. § Sir David Brewster, l. c., p. 3.

part of his life, he was much better versed in healthy and diseased anatomy than most physicians of his day, and excelled them in diagnosis as far as the eye and hand could assist him: but he did not outshine others in his knowledge and employment of remedies, as is evident from his writings and as he was in the habit of honestly confessing. His work on morbid anatomy was excellent in its day: all the cases recorded by him in various Transactions are interesting, and his few short descriptions of diseases faithful and original. A member of the Apothecaries' Company, named Everard Brand, kindly and wisely presented us with a valuable collection of *materia medica*, bequeathed to him by a Dr. Burgess, who had angrily desired that it should never come into our possession. Several fellows have given us articles of domestic use. In 1720, thirty seven Fellows contributed money, for whose names I refer to the tables on the walls of the theatre. Among them were Sloane, Mead, Freind, Jurin, Stukely, Wharton, and Woodward, all very eminent in their day. "An exhortation to imitate" them is happily superfluous; for in 1820, when we required a new building, all the Fellows came handsomely forward with ample donations, and their example has been followed to the present hour. No fewer than two hundred and seven names of donors appear upon the new tables,—all disinterested donors, for the College is still poor and can bestow no pecuniary, no worldly advantage upon its Fellows. Through the exertions of our late President, Sir Henry Halford, himself a liberal donor, the trustees of the Radcliffe fund contributed two thousand pounds towards our new building and Government allowed us the ground free of rent.

Among these modern benefactors are Wollaston and Thomas Young, both celebrated in science. The former shone by the accuracy and beauty of his experiments upon subjects interesting the scientific world at the time. The latter possessed almost universal knowledge and talent: discovering, by beautiful experiments, the laws of the interference of light, he completely revived the undulatory theory when it was despised and extinct, and was *rewarded with severe abuse* in the

Edinburgh Review: he also furnished us with the key to decypher the Egyptian hieroglyphics. The reputation of Wollaston accrued immediately, is limited, and will always remain the same: but the fame of Young will go on increasing as the world becomes better acquainted with the subjects upon which he laboured before others were interested in them.

I now come to the second half of Harvey's injunction to the orator,—"To give an exhortation to the members to study and search out the secrets of nature by way of experiment, and for the honour of the profession to continue mutually in love."

The injunction is not to fabricate hypotheses, not conceitedly to assert, without experience, that any facts ascertained by others are not facts, and to refuse the condescension of even a glance at them. We are still in the infancy of our knowledge of nature, no less than of high moral feeling: and it is our duty to become as little children no less in regard to the one than to the other. Our experience is yet far too inconsiderable for us to determine, to any great extent, before hand what are the facts of nature. A teachable and humble state of feeling powerfully conduces not merely to the success, but to the happiness, of scientific investigation, which every true student of nature knows to afford, when pure and undefiled by ambition or vanity, the highest, the most undisturbed, the most independent, the most enduring gratification. Whether the result of our investigations are of evidently practical utility is of no importance. The gratification is pure and ennobling; and every step in the knowledge of nature must ultimately lead to utility, because infinite nature is but one system,—every portion is connected with all the rest, however remote in space or time.

But investigations into the human apparatus, in health and in disease, and into the power of all external agents upon it, are *a solemn duty to us;* and the more, because, through the absence of a spirit of enquiry and progress in the immense majority of our countless predecessors, and their addiction to the mere

routine of what they learnt when young and to emolument, our art is still wretchedly imperfect, and we all constantly attend patients without the hope of curing them and are daily foiled in our attempts to cure others; too often we inflict fruitless discomfort and even pain upon those who are under our care: and for all this we are paid. If we have a proper sense of these considerations, we shall not be for one instant deterred by the selfish or stupid indifference of some, or the conceited prejudice and rancour of others, from enquiring into the truth of what is new and of firmly embracing in the sight of all men what we ascertain to be true. We shall "prove all things, hold fast to what is good." We shall remember all *the opposition to the truth of the circulation.* We shall remember that, when Aselli *demonstrated the lacteals,* which indeed Erasistratus in ancient times had seen containing chyle, *the highest authorities would not allow the evidence of eyesight,*—Thomas Bartholin complaining that he found "*not a single doctor of the University of Montpellier acknowledge them,* so wedded were they to the authority of Galen, for which *they contended as pro aris et focis, disregarding the experiments of the moderns:*" and that, when Pecquet *discovered the thoracic duct,* and traced the lacteals into it, and it to the left subclavian vein, there was *the same outcry,* for the profession would not willingly relinquish the ancient fancy that all the chyle was taken to the liver by the veins, and there converted into blood,—Harvey, now seventy-six years of age, not being able to liberate himself from the bonds of early prejudice,* and Thomas Bartholin lingering in it and suggesting that perhaps the finer parts of the chyle went by the new ducts to the chyle, "while the grosser, needing a larger concoction, enter the liver." We shall remember that, though the *sexual system of certain plants* was known to the ancients, and Alpini had demonstrated it completely in the sixteenth century, and Millington had urged it upon the incredulous Oxonians, and Grew had proved it in the seventeenth,—Tournefort *refused it a place in his*

* See his *Epistola Quinta,* J. D. Horstio.

work, and Pontedera, *after carefully examining it, pronounced it chimerical,* and Alston, the Professor of Botany in the University of Edinburgh, *violently opposed* it, in the last century. We shall remember that humanity has been disregarded equally with intellect, and the greatest improvements in practice rejected with scorn. When Ambrose Paré substituted with perfect success mild applications to gun-shot wounds for the *tortures of boiling oil,* his brethren were *so violent that he had to defend his wholesome innovation long afterwards before Charles XI. in person;* and, after he had proved the success of tying arteries after amputation, as is the present mode of preventing hæmorrhage, his cotemporaries *assailed him and persevered in the dreadful practice of applying boiling pitch or red-hot irons to the stump.*

Antimony was regarded with horror in the last century. In 1566, the Faculty of Medicine *at Paris prohibited its use,* and were supported by a Parliamentary decree. In 1609, Paumier, an eminent French physician, was deprived of his degree for prescribing it. *The inventor of a certain preparation of it was persecuted in the last century to the utmost by the English profession, "who," he says, "tortured him with all the calumnies imaginable, without sticking at anything that could destroy him root and branch."* Yet now we imitate his preparation as well as we can in our pharmacopœia; and many, not contented with the imitation, prescribe Dr. James's powder itself, ("Pulvis Jacobi Verus,") in spite of our statutes against the employment of secret medicines.

The use of *Peruvian Bark* met with the *fiercest opposition* from many of the profession. After it had sold at an enormous price, several thousand pounds weight lay in warehouses without a purchaser. Cromwell was allowed by his physicians to die of ague rather than be allowed to take it. Regular practitioners learnt the proper method of administering it from a man named Talbor, who was vilified all over England as an impostor. Our Morton had to stand up for it against the profession, and, in the words of the Harvcian orator of 1756, "*Medicis tunc falsò damnatum, regnoque pulsum, exa-*

minavit, absolvit, reduxit,—he *examined* it, acquitted it, and brought it back, when falsely condemned and expelled from the country by the medical profession.

For the practice of *inoculation* we are indebted to a strong-minded woman. Though the greater mildness of inoculated small pox was certain, the fact was disbelieved by many because no reason could be given for it; and, after great discussions, *misrepresentations* and *falsifications, cavillings* at authentic statements, and *denials* that the inoculated persons had contracted small pox, or that inoculation prevented the recurrence of the disease, inoculation was *almost disused* in England from 1730 to 1740, and it was *condemned in the schools. "Ergo variolas inoculare nefas,"*—therefore to inoculate small pox is an abomination,—was the title of a Thesis in 1723, Candidatus Ludovicus Duvrac, Præses Claudius De la Vigne. Some divines railed against inoculation, calling it the *offspring* of *atheism,* a *diabolic invention of Satan,* and inoculators *hellish sorcerers.**

Vaccination was opposed *still more violently, and far more violently in England than in any other country.* Jenner, who, like Sydenham, to our loss, was not a Fellow of our College, was advised in kindness by his friends not to communicate his imaginary discovery to the Royal Society, and met with a host of not mere sceptics, but of *stout deniers and malignant foes;* and this within our own memory.†

It is a matter of physical necessity that the *natural sounds of the chest* experience certain changes when the conditions of the lungs and thorax are altered in certain ways. Yet how *great was the contempt* poured forth upon the beautiful and important observations of Laennec!‡

* *The History of Small Pox.* By James Moore. 1815. p. 238.

† *The History and Practice of Vaccination.* By James Moore. 1817.

‡ One Fellow of our College ridiculed and censured in his lectures within our walls the practice of a physician carrying a piece of wood with him into a sick chamber: another stigmatized the stethoscope in public medical meetings as *"inutile lignum:"* another, who was my colleague in lecturing on the practice of medicine at St. Thomas's Hospital, assured our pupils that it was all humbug while I was taking pains to inculcate its importance, and the majority of the professional staff

How great and lasting was the ridicule of the true physiology of the brain as discovered by the immortal Gall!* This very College formerly imprisoned one of its Fellows

always held forth in the same strain in the wards: another, till within these two or three years, informed his pupils in his lectures that when a practitioner used a stethoscope there was a fool at one end and a poor worm at the other, and pronounced Dr. James Johnson, who was the first in this country to advocate the stethoscope and strenuously did so in his journal, a monomaniac, to every body: another would angrily declare that no sensible man ever thought of the stethoscope: a late popular physician, when his attention was requested to a singular cooing sound made by the heart of a patient whom I had seen, refused, and gave as his reason that such mechanical observations tended to spoil the philosophy of medicine: another, seeing me examine a doubtful case of affection of the chest with the stethoscope, remarked before the practitioner who had brought the patient from the country for our joint opinion and was a stranger to us both, that he never made use of those *French fooleries:* while I was examined respecting an insurance case of epilepsy, Mr. Serjeant Talfourd, at the suggestion of the late Attorney-General, Sir Frederick Thesiger, with the view of shewing that I was not likely to be well-informed in a disease of the nervous system, asked me *whether I did not use the stethoscope,* and was rebuked by the judge, Lord Abinger. I mention these things not to censure, but to point out the strength of mankind's propensity, in spite of education, to form hasty and even angry judgments.

* The *Phrenological Journal* has recorded the opposition to the true physiology of the brain. A late physician, in his *Lives of British Physicians,* remarks that the Latin word *circulator,* which signifies quack, was applied to Harvey in derision, and that he was believed by the vulgar to be crack-brained, all his cotemporary physicians being against his opinion (p. 38). Yet this writer, in a work called *The Gold-headed Cane,* falls, in reference to cerebral physiology, into the very error which he discerned so clearly in Harvey's adversaries. "What is this (Willis's imaginary assignation of distinct uses to certain parts of the brain) to the modern quackery," says he, "of craniology, in which every faculty and feeling has a distinct organ?" &c.

Harvey, we find, could not assent to the novelty of the lacteals running to the thoracic duct, though indeed he was not angry and unkind about the matter, but modestly said his sight was bad and his time too much occupied for him to attend properly to the subject, adding that he "did not prefer the old opinions through obstinacy,"—"*non quòd obstinatè huic sententiæ addictus sim.*" Sydenham did not perceive that small pox was infectious, though he saw much of the disease and wrote admirably upon it; and, what is more surprising, a trace of the idea having once crossed his brain is apparent in his chapter on small pox in his *Methodus curandi febres,* &c., but the idea was afterwards rejected by him.

How beautiful are Gall's reflections. "We must, therefore, pity mankind,

for differing in opinion with Galen, and another for employing cantharides internally, both which sins we now all daily and openly commit. About twenty years ago, when the Pharmacopœia Committee proposed a formula for hydrocyanic acid, after ample evidence of its utility, so large a number of Fellows wrote letters objecting to its introduction as dangerous and useless, that in my presence it was withdrawn. Yet it now is in the Pharmacopœia and in universal use.

Let us never forget these things: never allow authority, conceit, habit, or the fear of ridicule, to make us indifferent, much less to make us hostile, to truth: and thus, being single-hearted lovers of truth, and prizing it above everything else, we shall all love one another. Let us always have before our eyes that memorable passage in Harvey's works :—"True philosophers impelled by the love of truth and wisdom never fancy themselves so wise and full of sense as not to yield to truth from any source and at all times; nor are they so narrow-minded as to believe any art or science has been handed down in such a state of perfection to us by our predecessors that nothing remains for future industry. Many contend that the greatest part of what we know is the least part of what we do not know; and philosophers do not permit

and conclude that the opinions of cotemporaries as to the truth or error, and dangerous or innocent tendencies, of a doctrine, are very suspicious, and that the author of a discovery should be anxious only to ascertain whether he has really discovered a truth or not. A truth, once discovered, will make its way, and not fail to produce good effects." (t. i., p. 221, &c.) Again: "I have always been conscious of the dignity of my researches, and of the extensive influence which my doctrine will one day exert upon human knowledge; for which reason I have remained indifferent to all the good or evil which might be said of my labours. They were too far removed from received opinions to be relished and approved at first. A knowledge of them required profound and continued study: every one wished to pronounce upon them, and every one came with opinions and views according to his means of intelligence. All the doctrine is now consecrated to the public. Judgment cannot long remain doubtful. Personal feeling will disappear: the passions will calm, and criticism will have only its due weight. Posterity will not fail to contrast the point from which I started with that at which I stopped. My adversaries have but too distinctly displayed the state in which the various objects of my labours were, for it to be difficult to know what improvement these have derived and will derive from my discoveries." (t. vi. p. viii.)

themselves to be so slavishly led by the assertions and precepts of any man as not to believe their own eyes, nor do they so venerate antiquity as to desert beloved truth in the sight of the world: but they consider that instantaneous admission and belief is no greater proof of credulity and folly than not to discern what is manifest to the senses, and not to see broad daylight, is of stupidity and fatuity. They think the fables of the poets and the wild opinions of the vulgar not less deviations, than the hesitation of sceptics, from the path of philosophy. For studious, good, and honourable men, never allow themselves to be so overwhelmed with indignation and envy as not patiently to hear what is advanced as truth, and not to admit what is clearly proved; they are not ashamed to change their opinions, when truth and demonstration make this their duty; nor do they feel it disreputable to desert errors of even the longest standing: for they know full well that it is the lot of human nature to err and be mistaken, and that chance has discovered many things which any one may learn from any other,—an old man from a youth, a clever man from a fool."*

In another part he says:—"Some are clamorous with groundless and fictitious assertions on the authority of their teachers, plausible suppositions, or empty quibbles: and some rail with a torrent of expressions which are discreditable to them, often spiteful, insolent, and abusive, by which they only display their own emptiness, absurdity, bad habits, and want of argument (which results from sense) and show themselves mad with sophistries opposed to reason." "How difficult it is to teach those who have no experience or knowledge derived from the senses, and how unfit to learn true science are the unprepared and inexperienced, is shown in the opinions of the blind concerning colors and of the deaf concerning sounds."†

Never was it more necessary than at the present moment to bear all these things in mind. A body of facts is presented to us not only wonderful in physiology and pathology,

* *Opera Omnia*, p. 6. † p. 109.

but of the very highest importance in the prevention of suffering under the hands of the surgeon and in the cure of disease. The chief phenomena are indisputable: authors of all periods record them, and we all ourselves witness them, some rarely, some every day. The point to be determined is whether they may be produced artificially and subjected to our control: and it can be determined by experience only. The loss of common feeling,—anæsthesia, is but a form of palsy, and in it wounds give no pain. If this condition can be induced temporarily by art, we of necessity enable persons to undergo surgical operations without suffering. Whether the artificial production of those phenomena, or the performance of the processes which so often induce them, will mitigate or cure disease, can likewise be determined by experience only. It is the imperative, the solemn, duty of the profession, anxiously and dispassionately to determine these points by experiment, each man for himself. I have done so for ten years, and fearlessly declare that the phenomena, the prevention of pain under surgical operations, the production of repose and comfort in disease, and the cure of many diseases, even after the failure of all ordinary means, are true. In the name, therefore, of the love of truth, in the name of the dignity of our profession, in the name of the good of all mankind, I implore you carefully to investigate this important subject.*

* In 1802, Mesmer presented to the College one of those works which prove him to have been a man of great talent and information. Its title is *Mémoire de* F. A. Mesmer, *Docteur en Médecine sur ses Découvertes.* Paris, an. vii. With it is the following letter to the College. I have given a fac-simile of the signature.

"Paris, March 28, 1802.

"F. A. Mesmer, M.D., to the Royal College of Physicians, London.

"Gentlemen,—

"Persuaded that the knowledge and fate of a truth destined to become the essential object of your profession cannot be indifferent to you, I have the honour to lay before you, in the present memoir,

a sketch of a doctrine which I term ANIMAL MAGNETISM, and of the extent of its utility.

"You will readily perceive that the new method of treatment that I propose is not blind empiricism or a peculiar secret: but that the possibility and successful practice of it are proved by a theory which is founded in nature.

"When Galileo was persecuted for having wished to teach his cotemporaries the motion of the earth, his condemnation was not pronounced by the philosophers and astronomers of his day, but by priests, who, filled with veneration for the Scriptures, thought, with at least an appearance of reason, that his assertions were impious and tended to oppose revelation. He had no facts to offer to his judges, but only calculations and combinations unintelligible to them. The condemnation, however, of this philosopher fixed the character of ignorance and barbarism upon his age.

"Will POSTERITY believe that, at the end of the eighteenth century, an assembly, appointed to receive useful discoveries, disdained to examine the memoir which I presented to them,—that, instead of paying attention to a subject, the utility of which was shewn by innumerable facts in all parts of France, they entirely neglected it by the advice of a physician interested in depreciating it, and who adopted as the ground-work of his report the fragment of the report of an irregular commission of the ancient *régime*, which had been broken up and destroyed above sixteen years before and the last king of which had forbidden its promulgation as immoral?

"After an examination so slight and superficial, instead of a direct answer, which I had a right to expect, they informed the world, in a periodical, that they considered my assertions quackery, and animal magnetism a folly, the practice of which was contrary to morality.

"If, Gentlemen, I had come among you to propose an agent upon the nerves, for want of which medicine is often at fault; if I had submitted to you the examination of the nature and application of my doctrine; if I had proved to you by facts, multiplied at pleasure, the reality and efficacy of a new method, not only of curing, but of preventing diseases; if I had been eager to place in your hands all the means afforded by my discoveries and experience; if I had shewn you that this doctrine, which elevates the situation of the physician, must at some future time be established in the bosom of society, not to lead to the practice of an uncertain art,

but to the employment of a remedy which will secure to it the title of preserver of health :—if I had come among you with all these facts and all these proofs, to propose to establish before your eyes a practical rivalry between my method of cure and that which has been hitherto employed, you would not have repelled me as an enemy, you would not have overwhelmed me with insult and contempt, you would not have considered the blows given to my reputation and the hindrances opposed to the progress of my opinions as a triumph. You would, I am certain, have behaved more generously ; you would have wished the infallible torch of repeated experiment to have enlightened your decision : and your countrymen would have blessed you as their true friend and as depositaries worthy of their confidence.

"MESMER, said one of your newspapers, will never hold up his head again. If such is the destiny of the man, it is not the destiny of the truth, which is in its nature imperishable, and will shine forth sooner or later in the same or some other country with more brilliancy, and in its triumph will annihilate all its miserable detractors.

"Gentlemen, this cause, which I may term the cause of humanity, is undamaged in England, where the discovery has not yet been proclaimed. I place it to-day in your hands, because I feel assured that the spirit of justice which influences all your actions will secure it from that party spirit which has so outraged it upon the continent, and which you are destined to avenge."

je suis avec considération

Messieurs Votre très humble

Serviteur MESMER

Walton and Mitchell, Printers, 24, Wardour-street, Soho.